DOCUMENT RESUME

ED 344 529 HE 025 443

TITLE Senate Select Committee on Higher Education To Study Tuition Policy at Michigan Colleges and Universities: Final Report.
INSTITUTION Michigan State Legislature, Lansing.
PUB DATE 21 Dec 90
NOTE 204p.
PUB TYPE Legal/Legislative/Regulatory Materials (090) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS *Community Colleges; Educational Finance; Educational Trends; Expenditures; Financial Support; Higher Education; Policy Formation; *State Colleges; State Legislation; *State Universities; Tax Allocation; *Tuition
IDENTIFIERS *Michigan

ABSTRACT

This report contains the final recommendations of the Michigan Senate Select Committee on Higher Education on tuition policy at Michigan public colleges and universities. The report presents its findings and recommendations in three large parts. The first section contains the final recommendations of the Committee including goals of affordability and excellence, decision-making processes, a mission challenge and an appropriations challenge. The second section contains a report to the Committee on "Tuition Revenue and General Fund Expenditures at Michigan's Public Universities: Fiscal Year 77 to Fiscal Year 89" (Henry Prince). That report covers enrollment trends, revenue trends, expenditure trends, employee trends, programmatic modeling and extensive tables, figures, and references. Section III contains other documents, statements and reports presented to the Committee including: (1) a statement by David Adamany (president of Wayne State University); (2) a report consisting of figures and graphs by Carol Frances a consultant on national trends; (3) a comparative analysis of the financing of Michigan higher education by Kent Halstead (president of Research Associates of Washington, D.C.); (4) a report by Diane Smolen on community college and public university tuition trends; and (5) discussion by Marna Whittington and Robert Zemsky on the need for universities to change their processes. (JB)

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SENATE SELECT COMMITTEE ON HIGHER EDUCATION TO STUDY TUITION POLICY AT MICHIGAN COLLEGES AND UNIVERSITIES:

FINAL REPORT

PRESENTED TO
MEMBERS OF THE MICHIGAN SENATE

DECEMBER 1990

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MEMBER, K-12 AND DEPARTMENT OF EDUCATION SUBCOMMITTEES
HEALTH POLICY, CHAIRMAN

December 21, 1990

The Honorable John M. Engler
Senate Majority Leader
3-Q State Capitol Building
Lansing, Michigan 48909

Dear Senator Engler:

We are pleased to transmit to you and the entire Senate the report of the Senate Select Committee on Tuition Policy entitled, "Affordability and Excellence: Goals for Michigan Higher Education."

We believe that you, your staff, other members of the Senate and the general public will find the report to be of considerable interest as Michigan faces the challenge of keeping universities affordable. Included in this document are the written reports given to the Select Committee by a variety of national experts.

We want to thank Dr. Hank Prince and Ellen Jeffries for their hard work, dedication and intellectual insight in the preparation of this report and the staffing of the committee.

Sincerely yours,

Wm A Sederburg
William A. Sederburg
Chairman

Joe Conroy
Senator Joseph Conroy

Lana Pollack
Senator Lana Pollack

Dan L DeGrow
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COMMITTEE
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SENATE DEMOCRATIC WHIP

January 7, 1991

Senator William A. Sederburg, Chairperson
Senate Select Committee on Tuition Policy
State Capitol
Lansing, MI 48909

Dear Senator Sederburg:

I am adding my signature to the final recommendation report of the Senate Select Committee on Tuition Policy because I believe in and agree with many of the recommendations included in the report. However, there are some recommendations in which I do not agree with, as well as some which could have gone a little further.

I support the recommendations which steer the universities away from research and back toward teaching. Yet I believe that professors at every state university, including the three research universities, should be in the classrooms and laboratories teaching the students hands-on. The focus of every state university should be that of teaching over research. I feel that it is essential that we underline that importance.

In regard to Recommendation Three of the report, I take serious issue with the notion of differential tuition rates based on cost and market rewards to graduates. To charge higher tuition rates for "higher paying" curriculum is unthinkable. Imagine charging a student more for being a Physics major than for being a History major. What kind of message is that sending our students? This recommendation, if implemented, would also keep low and middle income students from entering into those "high paying" fields. I am very opposed to this idea.

As a whole, however, the report makes some good recommendations including the implementation of the Higher Education Research Institute; using the Midwest Compact to see what other states are doing; and creating a Higher Education Planning Commission.

I commend you, the other members of the Committee, and the several analysts which put a lot of time and effort into this report. I feel the issue of keeping tuition rates low and affordable for our students is extremely important and I appreciate the significance and gravity this Committee placed on it.

Senator, I ask that this letter be put into the final report of the Senate Select Committee on Tuition Policy. If I can be of any further assistance to you, please feel free to contact me.

Warm regards,

Joe Conroy

JOE CONROY
State Senator
25th District

JC:ma

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- *David Adamany*
- *Carol Frances*
- *Kent Halstead*
- *Diane Smolen*
- *Marna Whittington and Robert Zemsky*

Recycled Paper

Section I

Final Recommendations of the Senate Select Committee

AFFORDABILITY AND EXCELLENCE: GOALS FOR MICHIGAN HIGHER EDUCATION

RECOMMENDATIONS
OF THE
MICHIGAN SENATE
SELECT COMMITTEE ON TUITION POLICY

Senator William Sederburg, Chairman
Senator Joseph Conroy
Senator Dan DeGrow
Senator Robert Geake
Senator Lana Pollack
Senator John Schwarz
Senator Jackie Vaughn III

December 21, 1990

AFFORDABILITY AND EXCELLENCE: GOALS FOR MICHIGAN HIGHER EDUCATION

For the past year the Senate Select Committee on Tuition Policy has met with numerous national experts and has reviewed the Michigan experience in regards to tuition rates and university expenditures. The hearing process has led to a very clear and concise picture of the importance of the issue and the underlying causes of the increase in tuition. This picture has been used in the report to develop recommendations for higher education policy in the future.

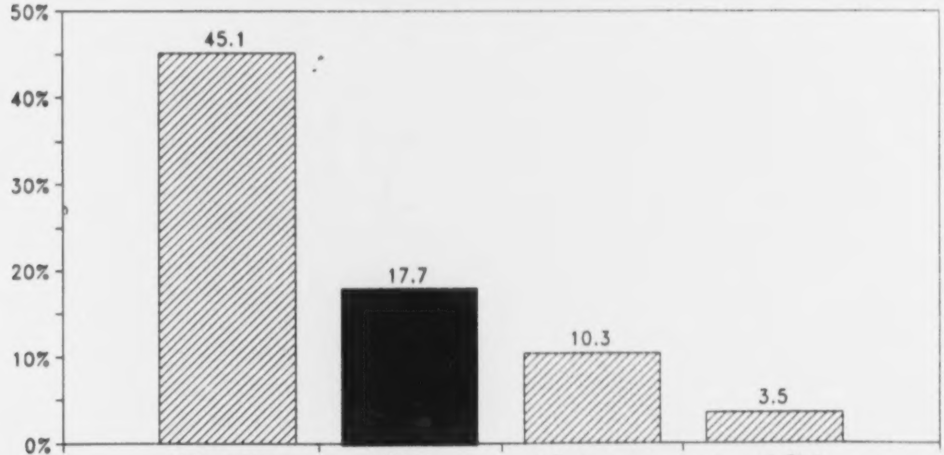
I. THE IMPENDING CRISIS

In an economic environment increasingly dependent on a highly-educated workforce, the opportunity for individuals to attend college is a prerequisite for economic growth. Michigan must not only provide the opportunity for post-secondary education, but must also develop an incentive structure to encourage a larger proportion of the population to receive post-secondary education. High tuition rates at our four-year public institutions threaten both goals.

Over the past twelve years Michigan students have picked up an increasing share of the cost of higher education. The Carnegie Commission in the mid-1970s recommended that the student's share should be about 33%. In the late 1970s in MIchigan the student share was 28%; now it is over 36%. Students and their families are being asked to fund more and more of their higher education.

Chart 1

FY89 Tuition Relative to Personal Disposable Income per Capita



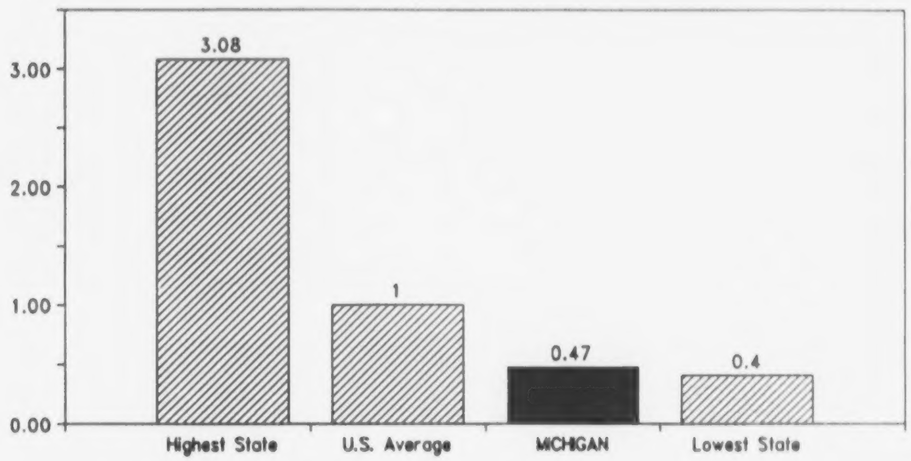
Data Source: Research Associates of Washington, 1989.

Dr. Kent Halstead's comparative state study was instructive in showing the decline in Michigan's ability to provide affordable higher education opportunities. In his study, Michigan ranked 46th among the 50 states in the reliance on student tuition when compared with personal disposable income per capita. In layman terms, Michigan is increasing tuition rates the fastest of any state when compared with average earned income.

Michigan citizens remain committed to attaining a college degree. The percentage of high school graduates going on to post-secondary education has increased over the past twelve years. Students and their families are making the financial and personal sacrifices required to get a post-secondary education. Intuitively, however, one knows that there is a limit to these sacrifices before Michigan citizens give up on higher education.

Chart 2

Ratio of State Effort to Family Effort
FY89



Data Source: Research Associates of Washington, 1989.

We found no evidence that high tuition rates were diminishing the total number of students attending college. There is evidence that the increasing cost of public universities is dramatically shifting the college experience. The "normal" length of time between matriculation and graduation has grown to between 4.5 and 5.5 years. More students are working part-time to earn money for colleges, and these students are working longer hours.

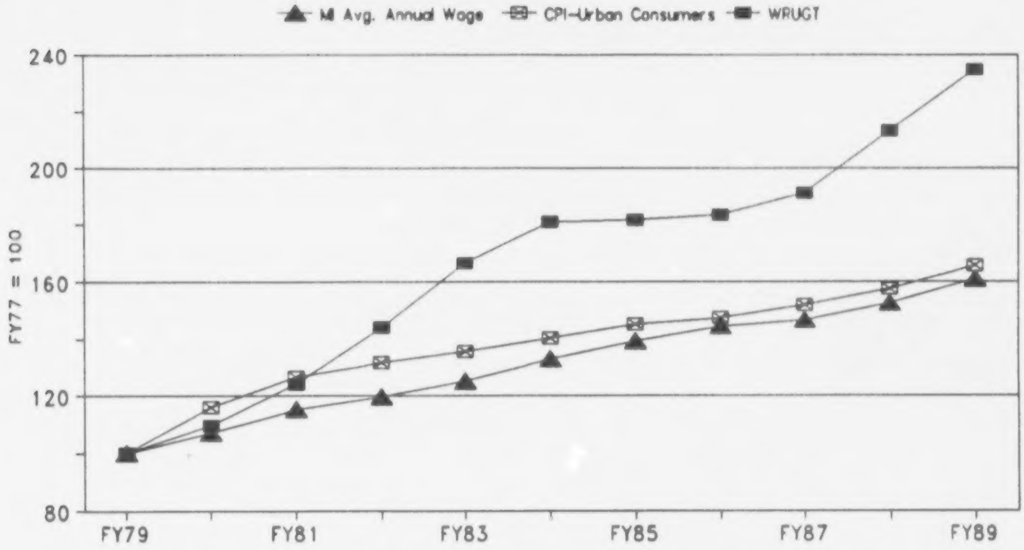
There is concern that some students are being forced to extend their education because institutions are not making available the range of courses necessary to graduate in a sequential and timely fashion.

The increased length of time before graduation probably increases inefficiencies that are added to the tuition burden. Non-instructional costs at our universities for items such as parking, certain library resources, public safety services, counseling, etc., must be expanded to meet increased headcounts. They may not need to be expanded to the same extent to meet increased fiscal year equated students, i.e., students carrying a full load of courses.

Students are also financing their education by borrowing heavily. It is not uncommon to have students completing four years of college education with a debt of fifteen to twenty thousand dollars.

Chart 3

Tuition, Michigan Average Annual Wage, and Consumer Price Index over Time



WRUGT = Weighted Resident Undergraduate Tuition Rate

Data Sources: HEIDI and Senate Fiscal Agency.

The Michigan experience is similar to that of other states. Tuition rate increases are exceeding inflation and increases in the average weekly wage. The increasing gap threatens both the accessibility of higher education and the state's economic future.

It is the general conclusion of this Select Committee that Michigan is on the threshold of a major educational crisis if tuition increases are not kept at or below the cost-of-living increase in future years. If we don't change the present course, our public universities will become increasing unaffordable, and the future of Michigan will be threatened.

II. THE CURRENT DECISION-MAKING PROCESS

Our committee's review of expenditure trends in Michigan Higher Education identified two paradigms for determining tuition levels. The first paradigm is easily diagrammed as:

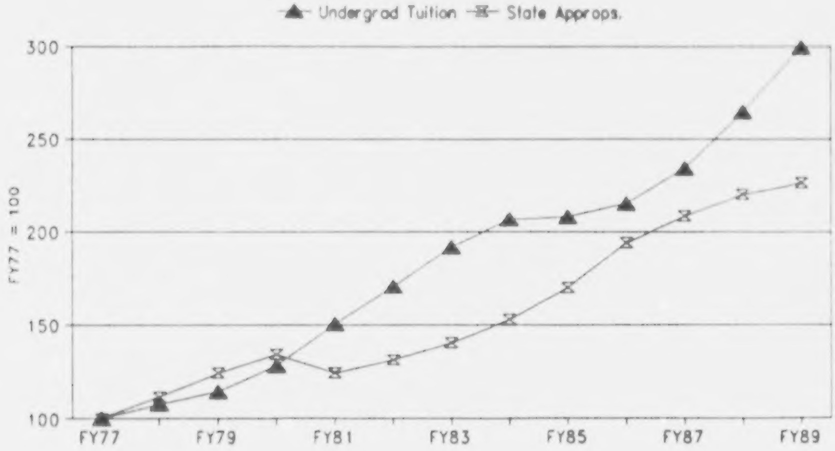
Expenditure Desires - State Appropriations = Tuition Levels

Using this paradigm, a university establishes its desired expenditure level, subtracts state appropriations, and then uses tuition to make up the difference.

University administrators have repeatedly pointed to the relationship between state appropriations and tuition increases. The argument is that tuition can easily be limited if state support is increased to make up the "gap" between expenditure needs and tuition revenue.

Chart 4

State Appropriations
And Undergrad Tuition Revenue



Data Source: HEIDI, a state higher education database

There is a relationship on a gross level between state support and tuition increases. During better economic years total tuition increases were more limited than during the poor economic years at the beginning and at the end of the 1980s. However, Chart 4 is somewhat misleading.

Table 1 below shows the percentage increase in state appropriations among the fifteen schools and their corresponding percentage increase in tuition/fees. On a micro level, state appropriation increases for individual schools did not reduce the magnitude of tuition increases. The relatively small variations in state support did not directly reduce or increase tuition at the institutions.

Table 1: Tuition and Appropriations Increases – FY77 to FY89

University	Resident Undergrad Tuition Rate Increase	Appropriations Increase
CMU	153.05 %	136.86%
EMU	151.38	128.55
FSU	195.00	141.98
GVU	141.13	155.49
LSU	180.48	136.03
MSU	210.10	129.43
MTU	197.15	169.64
NMU	142.56	139.62
OU	155.63	132.94
SVU	187.27	223.95
UM	216.39	141.37
UMD	214.66	132.40
UMF	184.02	143.83
WSU	134.38	131.64
WMU	166.00	119.62

This anomaly is probably accounted for by the success of political pressure placed on the smaller schools with appointed boards, and by the fact that some of the schools that didn't fare as well in the appropriation process limited tuition increases because of market pressures. Ferris State University would be one example when it froze tuition for four years.

Paradigm One has been the dominant mode for determining tuition at Michigan schools for the past decade. It worked well in the first half of the 1980s because expenditures needs were increasing at near-inflationary rates. This has changed dramatically since 1985 (see the Prince report).

Paradigm Two suggests that tuition be determined by the demands of the market being served by the university. Total expenditures are then adjusted to reflect the market tuition revenue and state aid. Paradigm Two might be diagrammed as:

Market Tuition + State Appropriations = Expenditure Base

This paradigm is receiving considerable attention in higher education management studies. The PEW Education Trust and others have all recently written about the need to reprioritize activities on the campus and to fund new initiatives from the current revenue base. In Michigan, the University of Michigan's report "Enhancing Quality in an Era of Resource Constraints" says it well.

> No longer will it be feasible, or even acceptable, to develop expenditure budgets and then to close the gap between expenditure plans and revenue projections by a price increase. There will have to be much more care in setting priorities, along with a painful acknowledgment that in order to do something new we generally will have to eliminate something old. Innovation by substitution, not growth by incremental resources, will have to become the operative management philosophy.

Michigan State University is engaged in the same process. They have adopted a "R Cubed" initiative for Restructuring, Reordering, and Reprioritizing programs.

The shift from Paradigm One to Paradigm Two will not be easy for the state to achieve. It is not easy because the pool of available students willing to pay higher tuition remains adequate to fill most university classrooms. Unfortunately, the secondary costs (inefficiencies and higher debt load) are easier to accept than are reprioritization decisions. Facing this problem, and without pressure from the state, most boards will prefer to raise tuition. Each university should evaluate this approach closely and determine its usefulness in making decisions affecting that institution.

RECOMMENDATION ONE: **It is the committee's recommendation that the universities move from Paradigm One to Paradigm Two in setting tuition rates.**

III. FOCUS ON INSTRUCTION

Increased pressure on tuition has come about because of the need for Michigan to be educationally competitive with other states and to meet the demand for educational services desired by Michigan citizens. In recent years, Michigan has neither had the financial nor the political ability to increase funding for our universities at the same pace as other states. In the 1960's Michigan was in the upper-third of states in per-person state support. It has now dropped to about the bottom-third.

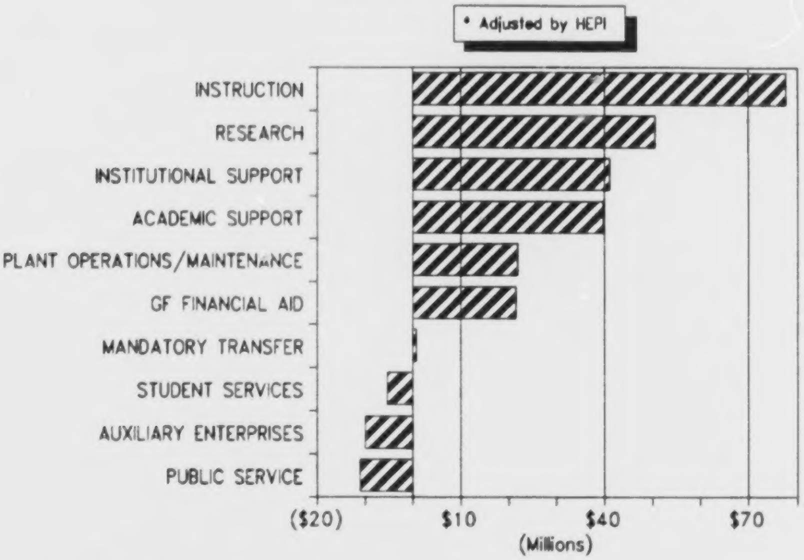
Aware of what other states have done, Michigan universities have appropriately tried to remain competitive in terms of faculty and programs. The institutions have been dynamic in this regard.

The Select Committee staff report analyzes in great depth the expenditure patterns of Michigan universities since FY77. The data is extremely interesting and useful in understanding the pressure for tuition increases.

The conceptual base of the study was to look at expenditure changes compared to the Higher Education Price Index (HEPI), which is an excellent guide for determining inflationary pressure on higher education institutions.

Chart 5

Increase in GF Expenditures*: FY89 Levels Less FY77 Levels



Data Sources: HEIDI, a state higher education database, and Research Associates of Washington

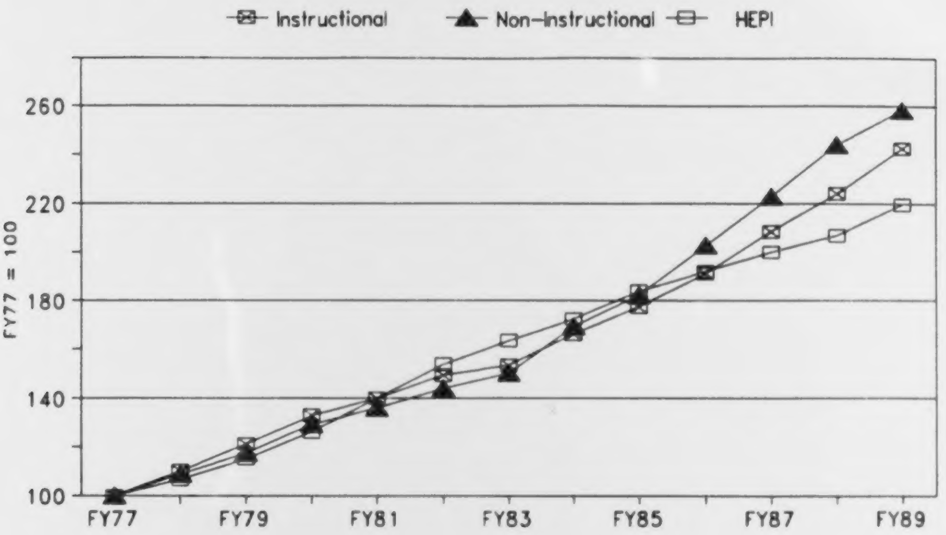
Higher education expenditures in Michigan increased by 151% since FY77. This compares with 119% for HEPI. Present General Fund expenditures include approximately $225 million in costs greater than that which could have been accounted for by HEPI. If the higher education system had remain constant since 1977, Michigan universities would now be spending $225 million less. The public universities have obviously made the decision to meet new and different demands for services.

An evaluation of the $225 million is interesting. One way of studying it is to separate the spending into instructional and non-instructional expenditures. Instructional costs increased $77 million more than HEPI and non-instructional costs increased the remaining $148 million above HEPI. Since 1985, the difference between the two types of expenditures has expanded dramatically. The state, through the appropriations process, needs to monitor this trend.

A more detailed breakdown of constant-dollar expenditures shows the largest percentage increases in research (94%), financial aid (37%), and institutional support (27%). The research agenda has been advancing at most universities, university-based

Chart 6

Trend of GF Expenditures:
Instructional & Non-Instructional



Data Sources: HEIDI, a state higher education database, and Research Associates

financial aid has increased considerably to mitigate large tuition increases, and institutional support costs — primarily administrative expenses — have surged forward.

Interestingly, the expenditure increases above HEPI have little to do with salary increases. Total faculty compensation expenditures have been slightly higher than HEPI (+4%) but have not contributed greatly to the expenditure growth. Far mo important has been the expansion in General Fund research and university administrative costs.

The differential instructional costs between upper- and lower-division undergraduate education have also not been reflected in tuition charges at those two levels at all campuses.

RECOMMENDATION TWO: **It is the Committee's recommendation that tuition should be directly related to total instructional costs linked to the mission of the institution. The state should fund other university activities it wants performed, besides instruction, by adding money to a basic inflationary increase.**

RECOMMENDATION THREE: **Universities should consider creating different rates of tuition for the first two years of college than for the last years of a baccalaureate program. Universities also should consider differential tuition rates based on cost and market rewards to graduates.**

IV. THE MISSION CHALLENGE

In response to the currently prevalent reward system at most of Michigan's public universities, faculty are expected to conduct research, secure external grants if possible, and publish regularly in academic journals. The professional interest in increased research activity creates internal pressure to reduce teaching loads and to de-emphasize student contact.

In order to keep tuition rates reasonable, schools that have a specific instructional mission must emphasize instruction and avoid expansion of research endeavors.

RECOMMENDATION FOUR: **It is the Committee's recommendation that public universities other than the three major research institutions limit future growth in research and concentrate primarily on undergraduate instruction. The smaller schools should resist the pressure to become research institutions, and should emphasize teaching and scholarship. Further, all universities should reward teaching excellence.**

RECOMMENDATION FIVE: **The Legislature and the Governor should re-evaluate the decision to include all fifteen public universities in the Research Excellence Fund (REF). At each university's option, money currently directed to the smaller universities through the REF should be earmarked for tuition restraint or instructional programs.**

V. THE APPROPRIATION CHALLENGE

Michigan continues to be recognized as one of the best and most comprehensive state higher education systems in the country. A high percentage of residents take advantage of these resources, and this increasing interest leads to additional pressure on the state for added resources.

While it is true that our universities must become more efficient, must reprioritize activities on a continual basis, and must limit administrative costs, it is also true that the state as a whole must re-examine its commitment to an affordable higher education system.

Michigan is falling behind other states in per-state resident expenditures for higher education. In time, our excellent, affordable system could become either mediocre or very expensive, depending on state funding.

Over the past six years the legislature has made a significant effort in adding money for our institutions above and beyond that recommended by the Governor. Since 1984, over $104 million has been added to the higher education appropriation. This would translate to a 17% tuition increase if expenditures had remained the same and if the schools had used Paradigm A to set tuition levels.

With the pending recession and with a lower-than-average economic growth rate for the past few years, Michigan will face a significant challenge in funding higher education institutions. Michigan will fall further behind if we, collectively, do not have a commitment toward affordable excellence.

RECOMMENDATION SIX: **The Michigan Legislature, in its higher education appropriations, should strive for annual increases equalling or surpassing the Higher Education Price Index. These funds should be appropriated in such a manner as to encourage tuition and educational cost restraint and to maintain programmatic excellence.**

RECOMMENDATION SEVEN: **To assist in tuition restraint, state appropriations should be based on a percentage increase on combined tuition revenue and prior-year state appropriations support.**

RECOMMENDATION EIGHT: **To encourage cost containment, the Legislature should examine establishment of a trust account that would provide funds, dedicated to tuition restraint or instructional improvement, to match non-instructional cost savings at the universities.**

VI. STATE PLANNING

We were impressed with the quality of analysis done by national experts on the tuition issue. There is a need to create resources at the state level to challenge our universities to achieve efficiencies and to remain affordable. The Governor's office and the Legislature also need the analytic capability to address the issues raised in Dr. Prince's study.

Michigan is one of the few states without a state board of higher education or a state agency dedicated solely to higher education. The Michigan State Board of Education plays a minimal role in planning for higher education growth. In 1985, the Governor's Commission on the Future of Higher Education called for a more aggressive state role in planning and coordination. The need remains.

Last year the Legislature funded the Michigan Higher Education Research Institute. The purpose of the institute was to address the higher education planning and research needs of the state. The Institute has yet to hire an executive director. The three universities coordinating this initiative have agreed to the organizational structure of the institute; it should be operational soon.

Michigan has also passed legislation joining a future Midwest Compact on Higher Education. The purpose of the compact is threefold: (a) student reciprocity arrangements among the states; (b) technological cooperation in telecommunications, supercomputer networks, etc.; and (c) a forum for research, analysis, and policy generation. The Compact should become operational within the year.

RECOMMENDATION NINE: **The Higher Education Research Institute should be implemented immediately and be asked to find ways to assist the state and requesting universities in developing policy options to keep resident tuition as low as possible.**

RECOMMENDATION TEN: **The Midwest Compact should be asked to investigate areas where cooperation with neighboring states could help Michigan provide educational opportunities at costs less than that of creating new programs.**

RECOMMENDATION ELEVEN: **The Legislature should consider creating a Higher Education Planning Commission dedicated to promoting and developing inter-university cooperation. The Planning Commission could also look at ways to encourage rational state planning on higher education issues.**

VII. CONCLUSION

Michigan is nearing an educational and economic development crisis. We must have affordable and excellent state universities for our sons and daughters to attend. Our institutions cannot continue the current practice of making up the shortage in state funds with tuition increases. Either state appropriations must increase substantially, the program base of institutions shrink, or our universities become more efficient. Most likely, a combination of all three actions will be required in the next decade.

The goal of this Select Committee was to analyze the current situation regarding tuition and educational opportunity. We believe we have done this, with one major exception. We have not spent time examining Michigan's student financial aid programs or the Michigan Education Trust (M.E.T.). Current student aid programs should be reviewed as to their effectiveness. A thorough review of M.E.T. would help citizens know its fiscal soundness and should be a top priority of the new administration and the new Legislature.

We hope these recommendations and the reports presented to the Select Committee will be of use to state decision-makers.

Section II

Report to the Senate Select Committee from Dr. Henry Prince

TUITION REVENUE & GENERAL FUND EXPENDITURES AT MICHIGAN'S PUBLIC UNIVERSITIES: FY77 TO FY89

A REPORT

TO

THE SENATE SELECT COMMITTEE ON TUITION POLICY

MICHIGAN LEGISLATURE

Prepared by

Dr. Henry Prince

December 14, 1990

This research study was supported by Contract No. 1990-1 issued by the Legislative Service Bureau of the Michigan Legislature.

Henry J. Prince is currently a senior analyst with the House Fiscal Agency, Michigan House of Representatives. At the time of this study, he served as a consultant and higher education advisor to the Michigan Legislature. In his career he has been a tenured faculty member, executive director of a statewide faculty association, and president of a consulting/evaluation firm in Michigan.

The author may be reached at 630 Snyder Road, East Lansing, MI 48823.

ACKNOWLEDGMENTS

The author of this report on Michigan public university tuition/fees and General Fund expenditures wishes to thank several individuals who have provided guidance and commentary during the period of this study:

- Bob Endriss, DMB higher education analyst, for his patient assistance in explaining nuances of the HEIDI database and clarification of trend data discontinuities and anomalies.
- Ellen Jeffries, Senate Fiscal Agency higher education analyst, who provided valuable insights concerning interpretation of data examined during the course of this study.
- Nick Khouri, Senate Fiscal Agency economist, who provided important economic data.
- Greg Rosine, House Fiscal Agency higher education analyst, and Richard Barclay, Senate Republican Office policy analyst, who each suggested textual and graphic improvements after reading the preliminary report.
- Representatives of Michigan's public universities, who voluntarily provided information and ideas for examination.
- And especially Senator William Sederburg, chairperson of the Senate Select Committee on Tuition Policy, who encouraged me in examining all aspects of this important issue of public university affordability.

Henry Prince

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FOREWORD

This report on Michigan public university tuition/fees and expenditures is the result of analysis of revenue and expenditure data submitted by Michigan's public universities to the Michigan Department of Management and Budget (DMB) from 1976 to 1989.

The Higher Education Institutional Data Inventory (HEIDI) database incorporates data submitted by the public universities, at least annually and in some instances more frequently. Unless otherwise noted, all the Figures and Tables contained in this report are derived from HEIDI. Appendix D contains a brief description of the various HEIDI categories to assist the reader in his/her understanding of the areas under examination.

The consultant assumed that the data contained in the HEIDI database were accurate. In a few instances, examination of time series revealed apparent data errors. In some instances, review of printed copies of the data, which are now submitted electronically to the DMB, led to data "adjustments." In other cases, contact with representatives of the universities yielded clarification of the data.

The consultant intended to examine HEIDI data from the database's inception in 1974-75, but "bugs" in the database in the early years forced him to begin with FY77. He recognized that trend analysis is susceptible to errors of interpretation depending upon the end-points chosen. Careful interpretation of the data was imperative.

To improve the visual clarity of the Figures in this report, the consultant used the following abbreviations for the public universities in Michigan:

CMU – Central Michigan University
EMU – Eastern Michigan University
FSU – Ferris State University
GVU – Grand Valley State University
LSU – Lake Superior State University
MSU – Michigan State University
MTU – Michigan Technological University
NMU – Northern Michigan University
OU – Oakland University
SVU – Saginaw Valley State University
UM – University of Michigan-Ann Arbor
UMD – University of Michigan-Dearborn
UMF – University of Michigan-Flint
WSU – Wayne State University
WMU – Western Michigan University.

INTRODUCTION

"Why is College Tuition So High? Families Want Answers, not Excuses." That headline in a 1990 issue of the New York Times sums up the tuition issue from the public's perspective. There has been an increasing public perception that tuition charges at colleges and universities have been spiraling out of sight and that a college education will be out of the financial reach of many students and their parents.

Not only have journalists focused their attention on college costs. Trustees have also expressed concern about tuition levels and the expenditures driving tuition rates higher.

Donald Stewart, president of the College Board, stated at a 1987 conference on higher education issues, "There is an imminent affordability crisis in higher education." Stewart also suggested that there is a broad diversity of opinion regarding the source of the problem: "with the prices per se, with families' ability to pay them, with insufficient institutional cost containment, with insufficient legislative attention to student aid funding levels, with colleges' failure to promote the worth of the enterprise, or with families' failure to undertake early financial planning . . ." (College Entrance Examination Board, 1988).

Recently Arthur Hauptman identified five hypotheses regarding accelerating college costs. They were: (1) "Colleges face increasing prices for what they purchase"; (2) "Colleges are using tuition increases to finance expanded or improved services"; (3) "The share of revenue from sources other than tuition is contracting"; (4) "Increased availability of student aid has led colleges to raise their student charges"; and (5) "Competitive pressures have convinced many colleges to increase tuition" (Hauptman, 1990).

After consideration of each of these hypotheses, Hauptman concluded that "there is NO overarching explanation . . .The most important influence on tuition growth in the public sector is the fluctuating revenue outlook in each state [*emphasis added*]."

In a presentation at a recent national institutional research conference, O'Neal Smitherman drew attention to a central value issue concerning tuition in public higher education. Who benefits from college and who should pay – the state or the student? He noted that the "economic storms" of a state usually affect the availability of state funds for higher education appropriations. Then he asked, "Are we requiring the student and his or her family to assume too much of the burden of higher education?" (Smitherman, 1990).

Kent Halstead, in a presentation to the Michigan Senate Select Committee on Tuition Policy, also raised the same issue. According to his data, in Michigan the family burden of providing financial support for college education was among the highest in the nation.

Carol Frances, who also served as a consultant to the Select Committee, recently analyzed ability-to-pay trends for the American Association of State Colleges and Universities and the American Association of Community and Junior Colleges. She concluded:

> "From 1980 to 1985 tuition increased about twice as fast as income available to pay for college. . . . The reason for the acceleration in the rate of increase in tuition in the first half of the 1980's is not a faster rate of increase in the colleges' costs. The reason is that a larger share of the costs is being shifted to the students because of shortfalls in funding from the Federal, state, and local governments." (Frances, 1987)

The public and the media seem to think that there is ONE bottom-line reason. But the issue is clearly multi-dimensional. Decisions by policy makers at the state level about university base appropriations and levels of state financial aid have contributed to the situation. Also, decisions made at individual universities concerning institutional mission, program mix, staffing patterns, and institutional financial aid also have influenced the current profile. An analysis of tuition costs and tuition policy without consideration of these many factors would be incomplete.

The public also seems to perceive that the trend of increasing college costs will continue. Nearly 50,000 adults have purchased Michigan Education Trust (MET) contracts – guaranteeing tuition payments at public universities and community colleges – in the past two years. Even corporations such as Mobil Oil are now using newspaper advertisements to encourage parents to focus attention on saving for college. Those corporations have suggested parental consideration of available tuition prepayment plans – such as MET – and college savings plans – such as the new federal Education Savings Bond Program – to prepare for educational costs that will likely be much higher than today's costs. Some Michigan public-policy decision-makers believe that the MET program will be a major factor influencing public university tuition levels in Michigan.

The multidimensional nature of the tuition issue, of its causes, and of possible remedies is evident. With the increased diversity of opinion concerning the factors causing tuition levels and college costs to advance at rates greater than the rate of inflation, it seemed appropriate that the Michigan legislature examine the issue of tuition at Michigan public universities.

To that end, the Michigan Senate adopted Senate Resolution 191, which created a Senate Select Committee on Tuition Policy. Chaired by Senator William Sederburg, the Select Committee also included Senators Conroy, DeGrow, Geake, Pollack, Schwarz, and Vaughn as members.

The Committee recognized the public perception that tuition charges and university costs have increased significantly in the last decade, making higher education an expensive commodity. It sought to examine revenue and expenditure trends and to identify economic and organizational causes of accelerating tuition.

In exploring the issue of tuition policy, the Committee conducted a series of hearings in February, March, and May of 1990. It initially examined Senate Fiscal Agency (SFA) analyses of tuition trends at Michigan's public universities.

SFA staff prepared calculations of tuition and fee increases over the last decade. They also made comparisons to external benchmarks, such as the Consumer Price Index (CPI), the Higher Education Price Index (HEPI), and Per Capita Disposable Income (PCDI), to determine college affordability trends.

Several national consultants presented testimony on one or more of the dimensions of the tuition issue at these sessions [see Appendix A for a listing of the consultants]. They explored tuition issues, economic factors, and national trends. In addition, the Legislature contracted with Dr. Hank Prince to provide policy and data analysis assistance to the Select Committee.

The Committee reviewed historical data concerning higher education state appropriations, university enrollments, expenditure patterns, and program mix of the fifteen public universities in Michigan. The Higher Education Institutional Data Inventory [HEIDI] database was the primary source of information provided to the Committee.

HEIDI is a state higher education database developed in 1974-75 by the state of Michigan in cooperation with the public universities. Each public university submits data on enrollments, General Fund expenditures, program profiles, number of graduates, physical plant features, financial aid, and several other categories. After review by Michigan Department of Management and Budget staff, the data becomes part of the official database.

Though the primary source of data was the HEIDI database, the Committee also used other appropriate sources of higher education and economic data.

For analysis of the historical data, the Committee selected the period of the Fiscal Years 1977 to 1989. Those particular years encompass (a) most of the current history of the HEIDI database and (b) a period of both recessionary and non-recessionary economic activity in the state. They also provide a long-term perspective involving gubernatorial terms of office held by both major political parties.

It is important to recognize that the HEIDI data are, in the most accurate sense, "close approximations" to actual expenditures. Allocation of every single undergraduate instructional expenditure between lower- and upper-division or allocation of some non-instructional expenditures to certain categories may not be as simple as it may first appear. The figures and tables contained herein have been interpreted with that proviso in mind.

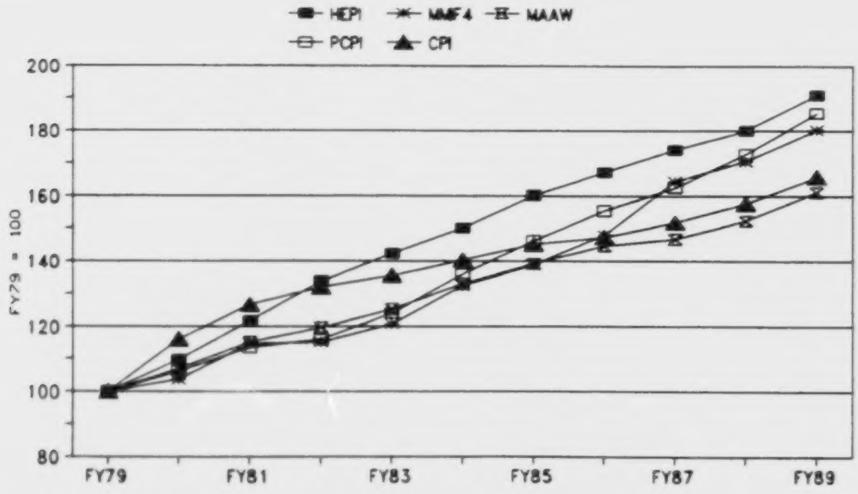
The study did reveal enrollment, revenue, and expenditure trends that may provide clues about tuition growth and areas of possible cost containment. The body of the report contains primarily system-wide data and figures of enrollment change, tuition trends, appropriations increases, and expenditure patterns.

Sometimes the figures display data disaggregated into data related to the three major research universities and data related to the sum of expenditures for the other twelve public universities. Since the three largest universities also have the highest tuitions, such disaggregation may provide insight into why tuition levels are so high at those universities.

As a prelude to the examination of enrollment, revenue, and expenditure trends, a review of applicable economic indices is appropriate.

Figure 1 displays the trends of the Consumer Price Index (CPI), the Higher Education Price Index (HEPI), the PCPI (Michigan Per-Capita Personal Income), the MAAW (Michigan Average Annual Wages - non-farm economy), and the MMIF4 (Michigan Median Income for a family of four).

Figure 1
Inflation and Income Indices



Data Sources: Research Associates of Washington, Bureau of Labor Statistics, and unpublished data from the U.S. Bureau of the Census and the Michigan Employment Security Commission (with SFA estimates for FY88 and FY89).

One notes that the Higher Education Price Index was behind the CPI until FY82, and since then HEPI has outpaced CPI. This divergence creates problems, as the universities benchmark their expenditures by HEPI, while the public generally uses the CPI as its standard of inflation.

The Per-Capita Personal Income (PCPI) and the Michigan Median Income for a family of four (MMIF4) indices lagged behind both CPI and HEPI until FY85 and FY86, respectively. The MMIF4 reflects the demographic change in income for two workers in a single family. Since FY86 both have approached the HEPI trend line.

With university expenditures trending with HEPI, an affordability problem seems to be developing for Michigan residents interested in attending public universities in this state. To assess the multidimensional nature of the affordability issue, it is necessary to examine the changes in enrollment, revenue, and expenditures that have been occurring at Michigan public universities since FY77.

As an aggregated system and as individual campuses, Michigan's public universities have experienced dynamic enrollment changes since FY77. In this section of the report we will examine various aspects of the enrollment phenomenon.

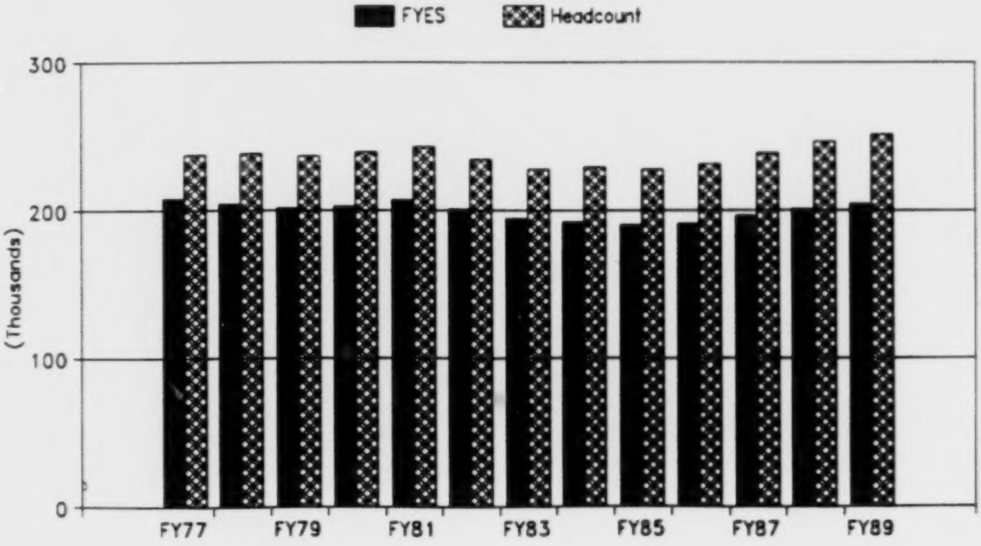
First, we will review headcount and Fiscal-Year-Equated-Students (FYES) patterns. Then, we will consider trends at the various collegiate levels of education. Finally, we will identify program enrollment changes. These analyses may provide insights concerning forces affecting college costs.

System Trends

One measure of enrollment is student headcount (i.e., the number of students enrolled for at least one course). Another measure is FYES – the number of students equivalent to each student taking a "full load" of courses.

Figure 2

Enrollment Trends: FYES and Headcount
FY77 to FY89



Data Source: HEIDI, a state higher education database

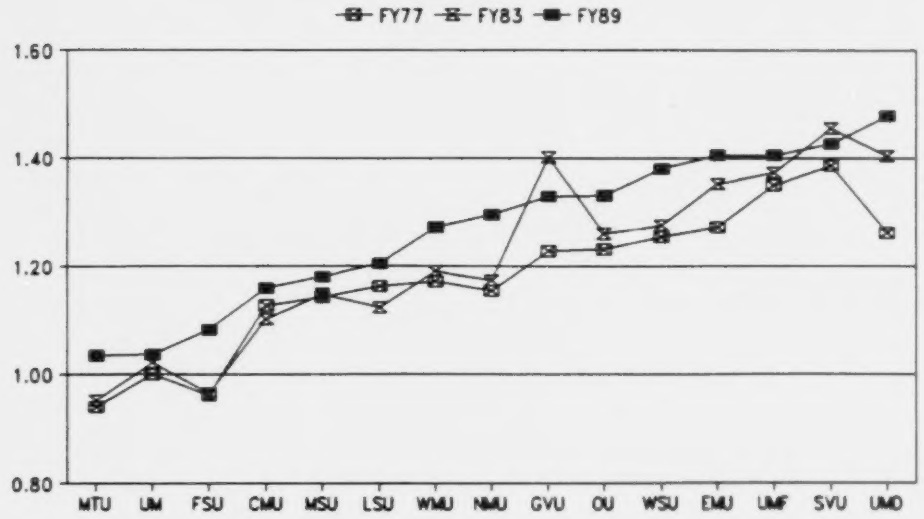
Figure 2 displays the system enrollment trends in terms of both headcount and

FYES – undergraduate and graduate students. One notices the steady levels for each from FY77 until FY81, when a decline began in both categories.

The headcount and FYES declines both reversed in FY86. While FYES in FY89 had almost but not yet exceeded its peak in FY77, headcount had surged to the highest level in the thirteen years under study.

Figure 2 also shows that there was a system-wide reduction in the number of credits carried by college students during the period as well. Comparing the headcount and FYES bars, one sees a growing divergence between the two bars in the latter years. In the late 1980s the credit-hour load of the typical student has declined. Hence, the number of terms required for completion of an undergraduate degree has increased. This may have an impact on operating costs as well as on aggregate tuition costs for those students who, out of choice or necessity, complete degrees in more than four years.

Figure 3
Headcount per FYES



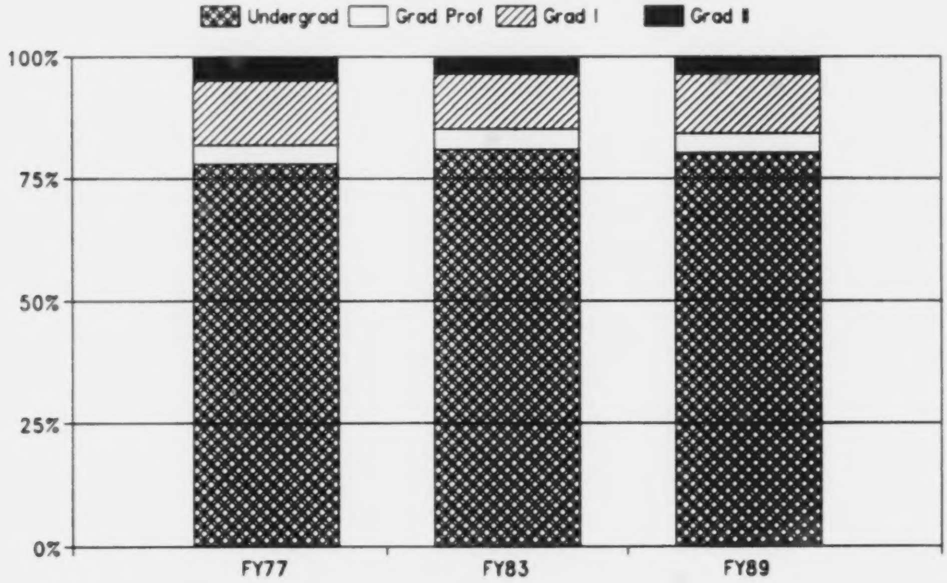
Data Source: HEIDI, a state higher education database

In Figure 3 one sees disaggregated data concerning headcount and FYES levels. The general trend for all universities since FY77 and for most since FY83 is evident. Headcount-to-FYES ratios of greater than 1.00 mean that students at those universities enrolled for less than the "standard" load of 31 semester credits in a year of study. One recognizes that in FY89 all universities had ratios greater than 1.00, as the influence of part-time and lighter-load enrollment became evident. Unfortunately, the database does not provide information as to the relative weights of "part-time" (i.e., students who take one or two courses in a term) versus "lighter load" students (who enroll for slightly under the "full" load of courses).

This trend has implications for both instructional and non-instructional expenditures, and it is one factor to consider when making judgments about tuition policy. More "part-time" students may drive up student services and some academic support costs, and even instructional costs depending upon their program areas. An increased number of "lighter load" students may have more of a financial effect in instructional areas.

Since the relative number of undergraduate and graduate students affects the FYES numbers, it is important to examine the trends at those two levels of education. Figure 4 reveals that the public university system has become slightly more undergraduate during this period. While 77.9% of the FYES in FY77 were undergraduates, in FY83 that segment had grown to 80.8% of enrollment and then declined slightly to 80.2% in FY89.

Figure 4
Distribution of FYES



Data Source: HEIDI, a state higher education database

Grad Prof (graduate professional) enrollment, i.e., medical, law, and other professional-school programs, maintained its relative distribution during the period. It may be that these program areas have continued to have substantial numbers of outstanding "native", i.e., U.S. citizen and resident alien, applicants from which to select.

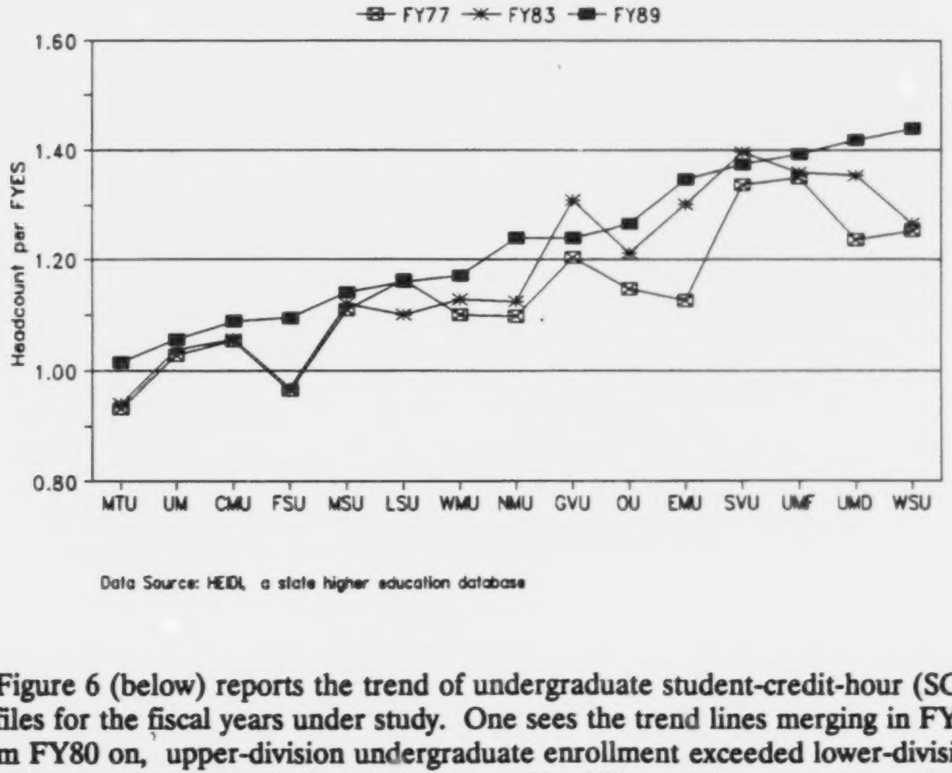
One notes the declines in Graduate I (master's) and Graduate II (doctorate) categories. Fewer individuals enrolled for Master's and doctoral degrees at the end of this period than at the beginning. Also, some of this decline is attributable to the limited turnover in public-school teacher employment. Many teachers had gotten their continuing-certification credential by the early 1980s, and thus there was a decrease in their numbers as graduate students.

The declines in Grad I and Grad II probably would have been more profound if the number of qualified foreign students seeking graduate education had not continued to be substantial during this period.

Figure 5 shows undergraduate headcount per Fiscal Year Equated Student. One notices that more headcount was necessary in FY89 than in either FY77 or FY83 to achieve one FYES as more undergraduate students are enrolling on a less-than-full-time basis. An area of further inquiry beyond the scope of this study is the extent to which this trend has affected cost efficiency at the campuses.

Figure 5

Undergraduate Headcount
Per Fiscal Year Equated Student

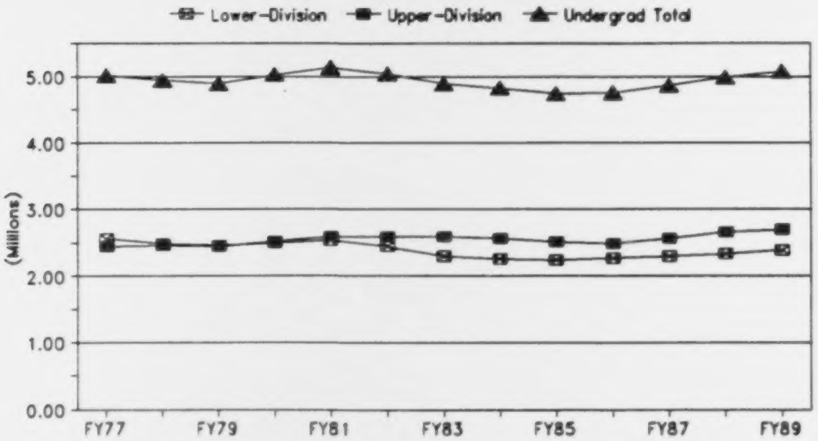


Data Source: HEIDI, a state higher education database

Figure 6 (below) reports the trend of undergraduate student-credit-hour (SCH) profiles for the fiscal years under study. One sees the trend lines merging in FY79. From FY80 on, upper-division undergraduate enrollment exceeded lower-division, probably for the first time in the state's history. The differential between the two levels increased during the 1980's.

The decline in the traditional college-age population as well as increased community-college attendance may explain the lower-division trendline. Increased enrollment of non-traditional students, who frequently have earned college credits, and the increased transfer of independent-college students at the upper-division are factors that explain the growth in upper-division enrollment. Increased credit-hour requirements for majors and increased student retention may also be contributing to upper-division SCH growth.

Figure 6
Trend of UG Student Credit Hours:
Lower- and Upper-Division*



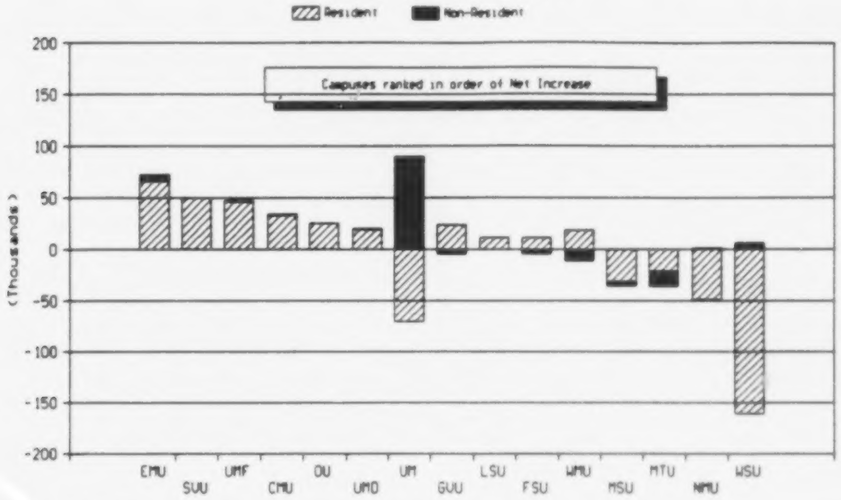
Data Source: HEIDI, a state higher education database

Economies of scale in terms of class sizes usable at the lower-division level are not as useful at the upper-division level. Students at the upper-division level tend to enroll almost exclusively in courses in their major. And the scope of available majors seems to be increasing. Since upper-division programs tend to be more expensive, use of larger-size classes at the upper division is not as feasible, unless one went to alternate-term or alternate-year offerings of current smaller-size classes. Such action then affects the time-to-degree pattern of undergraduates; it has already been lengthening to an a norm of 4.5-to-5.5 years for a baccalaureate.

Examination of enrollments by residency is also important. Legislative or Executive Office initiatives or guidelines in terms of resident tuition rates may have differential impacts on universities, depending upon the ratio of resident to non-resident undergraduates.

Figure 7 (below) displays the increase in the number of student credit hours attributable to resident and non-resident undergraduates at each public university. The universities are ranked according to their total increase in undergraduate student credit hours (UGSCH), with Eastern Michigan having the largest total increase and Wayne State with the largest UGSCH decline in this time period.

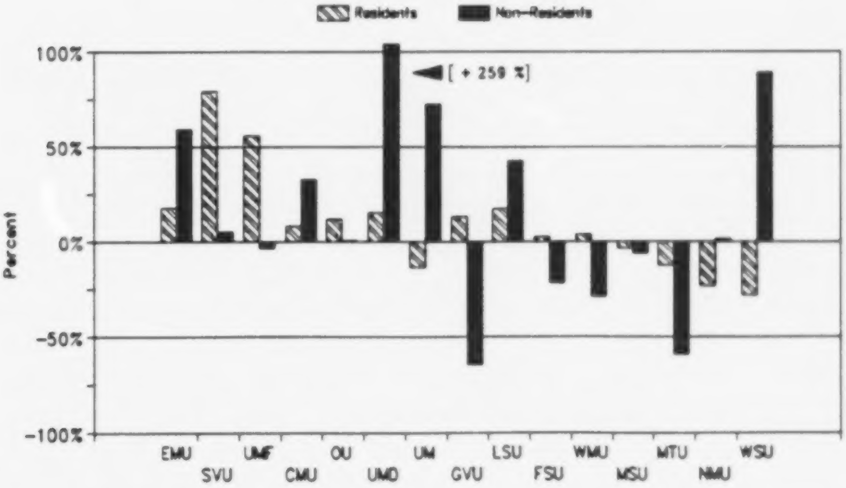
Figure 7
Undergraduate Student Credit Hours
Increase: FY77 to FY89



Data Source: HEIDI, a state higher education database

Figure 8 displays the percent increase in UGSCH based on residency. While the University of Michigan had a small net increase in undergraduates, resident UGSCH declined and were offset by a larger non-resident UGSCH increase. This had positive revenue implications for UM-Ann Arbor, especially in that segment of the period under study when gubernatorial and university trustee initiatives had resulted in very limited tuition increases for resident undergraduates.

Figure 8
Undergraduate Student Credit Hours
Percent Increase: FY77 to FY89



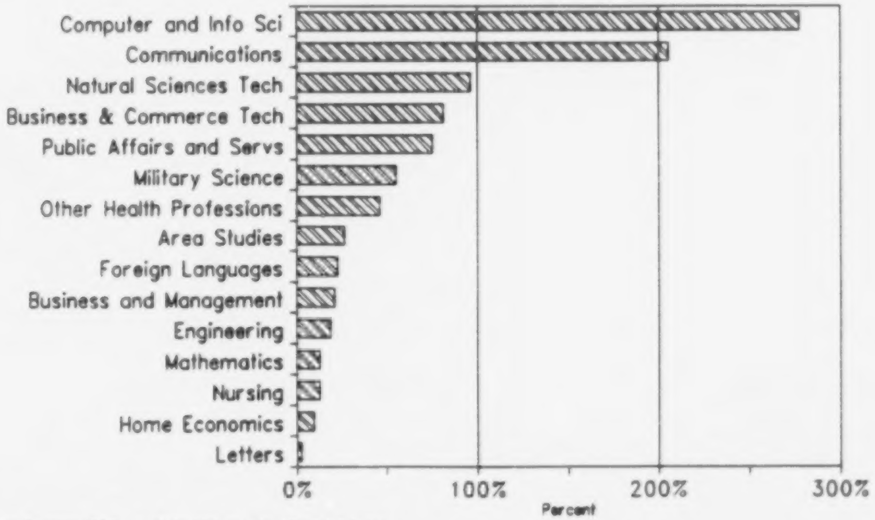
Data Source: HEIDI, a state higher education database

The Legislature has examined the enrollment patterns of non-resident undergraduates at the UM-Ann Arbor, and the university has voluntarily begun to reduce its non-resident population of undergraduates to an agreed-upon level of 30% of total undergraduates.

Figures 9 and 10 (below) provide visual evidence of the enrollment shifts between programs. While general trends in enrollment among the campuses are important to examine, it is critical to discern the programmatic aspects of the enrollment changes.

Figure 9

Undergrad Programs with SCH Increases
Percent Change: FY77 to FY89



Data Source: HEIDI, a state higher education database

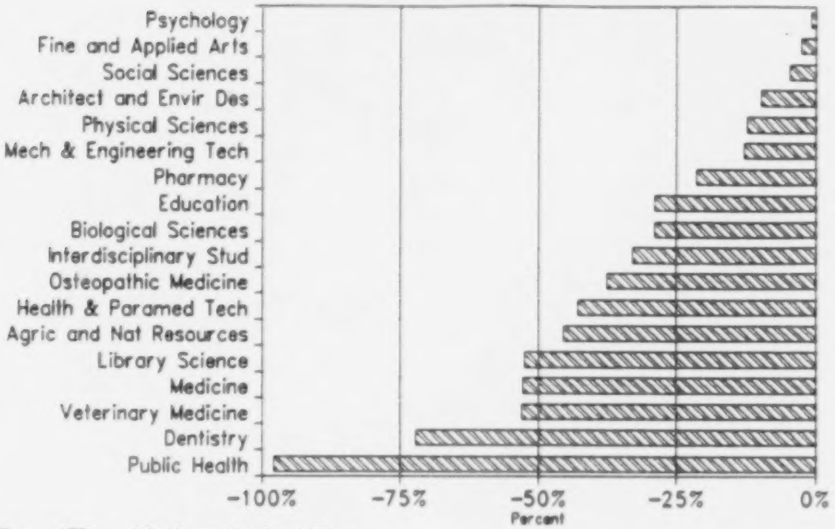
Are undergraduates now shifting their enrollment from the hard sciences to the liberal arts and humanities? Are they now enrolling in more expensive programs? Are they enrolling in program areas for which universities charge differential fees (on top of basic tuition and fees)? Are certain program areas increasing in SCH due to service courses for other degree programs?

There has been an increase of approximately 90,000 UGSCH. There are three HEIDI program areas [Communications, Computer and Information Science, and Business & Management] that have, individually, experienced UGSCH growth in excess of the overall growth among all undergraduate programs . The growth areas of engineering, mathematics, health professions, and technology areas have excellent employment opportunities; they also tend to be more expensive instructional programs.

The program areas in Figure 10 that have shown substantial declines include education, physical and biological sciences, and the social sciences. In more recent

Figure 10

Undergrad Programs with SCH Decreases
Percent Change: FY77 to FY89



Data Source: HEIDI, a state higher education database

years, these areas have shown some enrollment growth and have rebounded from their nadirs in the early 1980s.

Changes in enrollment by level and by program area may affect tuition rates. Increased upper-division enrollment in more expensive program areas have influence on the faculty cadre mix, productivity opportunities, and the scope of instructional programs offered.

Enrollment changes usually have an impact on revenue, and General Fund revenue sources and trends will be the focus of the next section of this report.

Among the factors that must be examined to find out why tuition rates are rising more rapidly than inflation is university General Fund (GF) revenue. The trend of GF revenue sources may explain the apparent shift of responsibility from the state to the student.

This section of the report is organized into four topics: (a) state appropriations; (b) tuition revenue; (c) resident undergraduate tuition/fees; and (d) General Fund financial aid.

General Fund revenue flows from five sources: (1) State Appropriations; (2) Tuition; (3) Investment Income; (4) Indirect Cost Recovery; and (5) Other Revenue.

For most public universities, the major sources are state appropriations and tuition/fees. For the past twelve years those two categories have comprised over 90% of the GF revenue for public universities as an aggregate. Figure 11 displays the systemwide aggregate for the period.

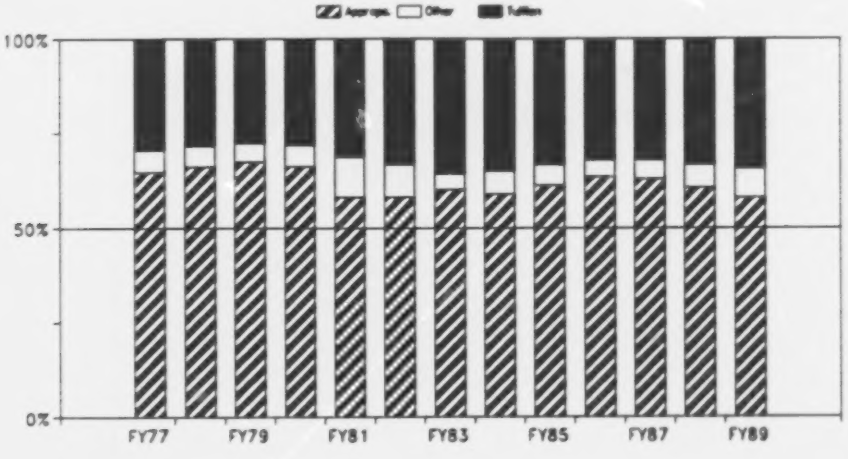


Figure 11
University General Fund Revenue Sources
Percentage: By Fiscal Year

Data Source: HEDL a state higher education database

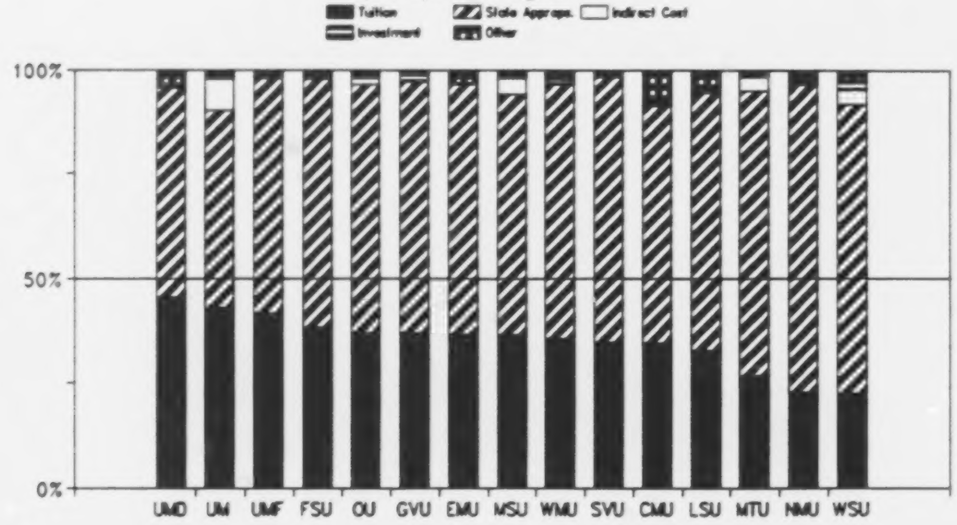
Only in high-interest periods or in periods when State Appropriations and Tuition Revenue both have not grown substantially has Other Income (primarily investment income) comprised more than 5% of GF revenue.

It appears that the large constant-dollar decline in state appropriations per FYES (see Figure 13 below) during the major recession of FY80-FY81 led to a surge in tuition's portion of General Fund revenues. Both headcount and FYES declined from FY81 to FY85 (see Figure 2), thus eliminating increased enrollment as the key factor for the surge in revenue. Tuition rate increases explain the trend.

Tuition's proportion of GF revenue continued to increase until FY85 when legislative enactment of additional higher education appropriations and gubernatorial jaw-boning on resident undergraduate tuition increases brought the two trends more closely together. In FY87 tuition resumed its previous trend .

The overall pattern of Figure 11 also fits the individual universities (see Figure 12 below). "Indirect Cost Recovery" from major research grants at the University of Michigan-Ann Arbor and "Other Revenue" at Central Michigan University are the only category and campus-specific sources of GF Revenue – excluding tuition and state appropriations – that exceeded 5% in FY89.

Figure 12
Sources of FY89 General Fund Revenues
By Major Categories



Data Source: HEIDI, a state higher education database

At some campuses tuition and fees are a greater proportion of GF revenues than at others. Thus, a tuition policy should recognize these differences and anticipate the likely differential impact on the fifteen universities. It may be appropriate to have an institution-specific tuition/fee policy.

In view of these long-term patterns, examination of data related to the two major areas of General Fund revenue will be the focus of this section.

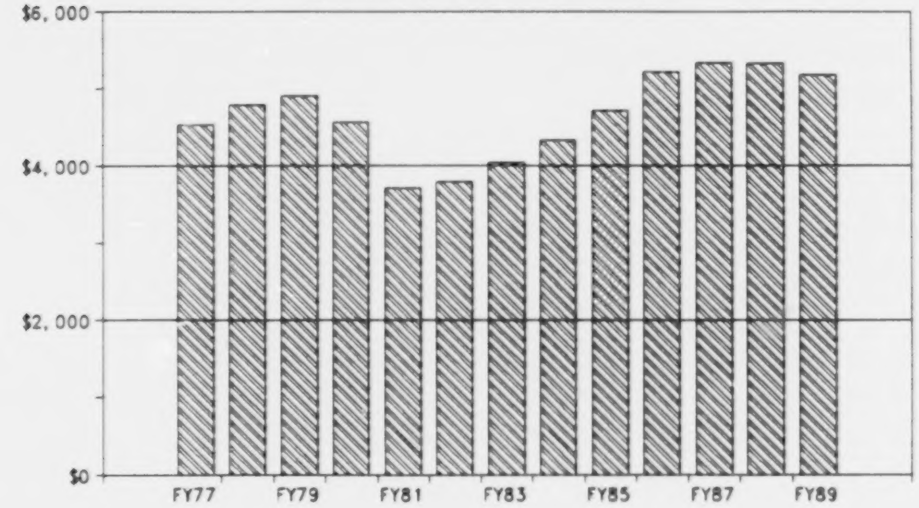
State Appropriations

Figure 13 displays state appropriations per FYES on a constant-dollar basis for FY77 to FY89. State appropriations for the public universities increased by 124% in this period. One can see the decline in state appropriations in FY80 and FY81, the required five-year climb to reach a level above that of FY79, and then the decline from FY87 to FY89.

Figure 13

State Appropriations per FYES

[In CPI-Adjusted 1989 Dollars]



Source: HEIDI, a state higher education database.

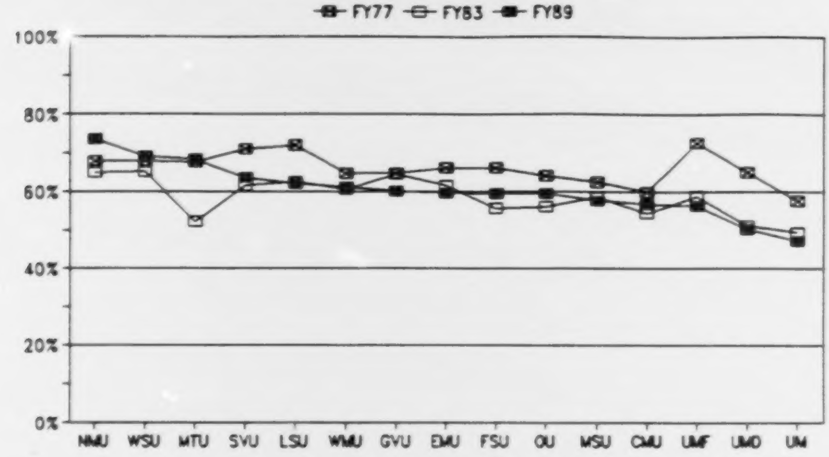
In the same period, the Consumer Price Index (CPI) increased by 101%, the Higher Education Price Index (HEPI) advanced by nearly 120%, and public university expenditures increased by 134%.

Figure 14 (below) shows the trend of state appropriations as a percentage of university General Fund (GF) revenue for the fifteen universities. The chart displays the three benchmark years [FY77, FY83 – the midpoint of the period, and FY89].

For nearly all public universities, state appropriations as a proportion of total General Fund revenues have declined from FY77 to FY89. The surge in tuition revenue and the decline in state appropriations revenue as the major components of total GF revenue explain this pattern.

The range of state appropriations as a percentage of Total GF revenues among the universities has broadened from FY77 to FY89. In FY77 the range was from 58% to 73%, with University of Michigan-Flint at the top and UM-Ann Arbor at the bottom. In FY89 the range was 47% to 74%, with Northern Michigan University at the top and

Figure 14
State Appropriations
As a Percent of Total GF Revenue



Data Source: HEIDI, a state higher education database

UM-Ann Arbor at the bottom. If universities had been more aggressive in cost containment and if tuition increases had been more moderate during this period, it is likely that the range in FY89 would have resembled the FY77 breadth.

Tuition Revenue

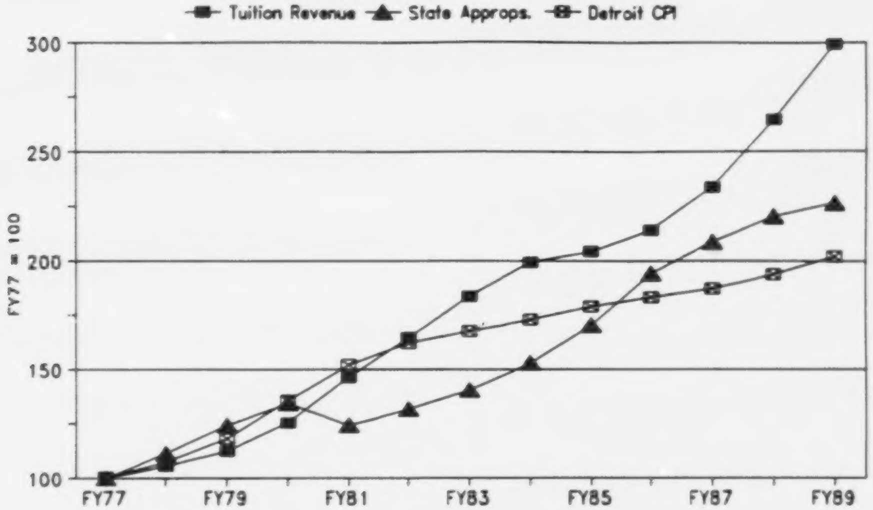
To provide revenue for university expenditures during the period when CPI-adjusted state appropriations and appropriations per FYES were below FY77 levels (i.e., FY80 to FY84), all public universities levied real-dollar tuition increases. For the entire period, total tuition revenue increased by 155%.

Increased enrollment at the undergraduate level accounts for a portion of the surge in tuition revenue. But tuition rate increases at the undergraduate, graduate, and professional school levels account for most of the tuition revenue increase.

Figure 15 (below) shows these three trends. One can see that state appropriations, the CPI, and undergraduate tuition revenue followed slightly different paths to reach their respective FY89 levels. From FY77 to FY80 total tuition revenue and the CPI experienced nearly identical increases. However, higher education state appropriations declined from FY80 to FY81 and then did not exceed the FY80 level until FY83 (appropriations per FYES did not exceed the FY80 level until FY85.

FY77 to FY80 were years of stability as state appropriations, tuition revenue, and the CPI trended together. Those years were in sharp contrast to the preceding decade and the following decade. What feature of those four years might explain the stability? One factor was use of the original Investment Needs Model to determine state appropriations for public universities. Once the recession of FY81 hit, the Model was

Figure 15
State Appropriations & Tuition Revenue



Data Sources: HEIDI, a state higher education database, and Senate Fiscal Agency

abandoned and never used in the subsequent positive economic period of the mid-to-late 1980s. It may be fruitful to re-examine the original model as a guide to appropriate funding for the 1990s.

Though vitally important to a university's operation, the level of state appropriations is generally not considered by parents when decisions about public university attendance are made. Students and their families usually focus their attention on tuition rates when they reflect upon the choice of a college or university. Though tuition is generally less than one-half of total public university costs for in-state residential students, it is a major factor in determining if and which university one's son or daughter may attend.

Resident tuition rates have risen substantially at Michigan public universities as families have increasingly borne a larger portion of college costs since FY77. Kent Halstead, a national expert on higher education financing, discussed this issue with the Senate Select Committee. He reported that Michigan families bear nearly the highest burden in the nation in terms of family financial resources supporting public higher education attendance.

When one first compares family financial contribution to total student costs for public university enrollment (i.e., family effort), and then compares state higher education appropriations to total state General Fund spending (state effort), the ratio of Michigan family effort to Michigan state effort is among the highest in the nation. Only Vermont, Delaware, and New Hampshire have higher ratios. These states are usually not at the top of one's list of states with many outstanding public universities.

Actions to rectify this situation may include additional state appropriations, reduction of university expenditures, or a combination of these two approaches.

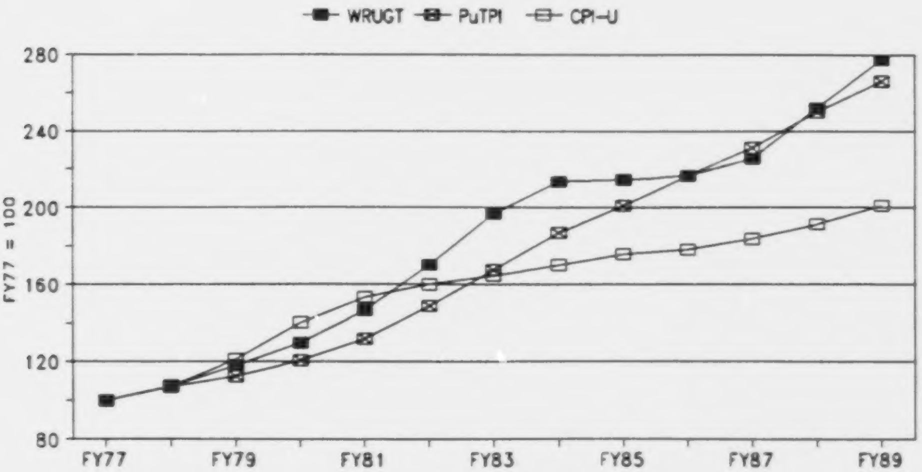
Resident Undergraduate Tuition/Fees

Since tuition policy issues in Michigan revolve primarily around resident undergraduate tuition rates, an examination of recent undergraduate tuition levels is in order.

In 1976-77 resident undergraduate tuition at Michigan public universities averaged, in nominal terms, $769 per Fiscal Year Equated Student (FYES). The range of undergraduate tuition rates was $630 to $1,064, with Lake Superior at the bottom and UM-Ann Arbor (upper-division) at the top. In FY89 dollars, the FY77 range was $1,382 to $2,335.

In 1988-89 the average resident undergraduate tuition rate was $2,121 per FYES. The range was $1,729 to $3,329, with Northern Michigan at the bottom and UM-Ann Arbor (upper-division) again at the top. And the range from high to low rate widened in the period.

Figure 16
Tuition and Price Indices

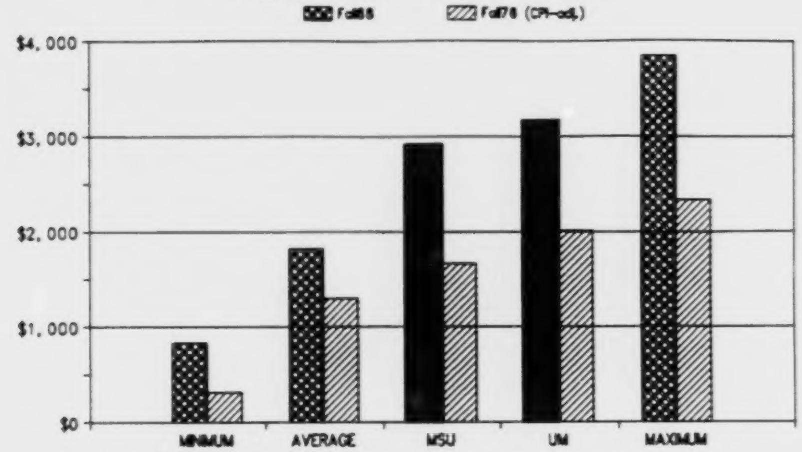


WRUGT = Weighted Resident Undergraduate Tuition rate for Michigan public universities; PuTPI = Public resident undergraduate tuition rate (national data); and CPI-U = Consumer Price Index - Urban Consumers.

Data Sources: HEIDI, a state higher education database, and Research Associates of Washington, D.C.

Figure 16 displays the growth in weighted resident undergraduate tuition since FY77 compared to national data on resident undergraduate tuition (PuTPI) and the Consumer Price Index for urban consumers (CPI-U). One notices that resident undergraduate tuition in Michigan has had a fluctuating pattern compared to the steady slope of the PuTPI. Since FY83 both the national and Michigan indices have exceeded

Figure 17
Fall76 & Fall88 Resident UG Tuition
Sample of 63 NASULGC Universities

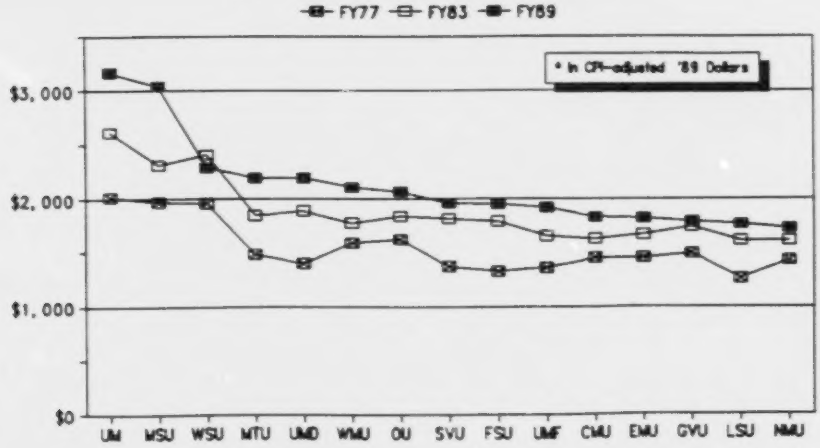


Data Sources: Student Charges at Public Institutions: Annual Survey 1989-90, NASULGC, and Chronicle of Higher Education, April 19, 1976.

the Consumer Price Index. The effects of the FY80-FY82 recession and the gubernatorial jaw-boning of the middle-1980s are evident.

Figure 17 reports the Fall76 and Fall88 resident undergraduate tuition rate for a sample of 63 universities that are members of the National Association of State Universities and Land-Grant Colleges (NASULGC). The list of campuses that comprise the sample are contained in the appendix. One notices that Michigan State and the University of Michigan-Ann Arbor have had tuition rates above the average for the 63 universities in FY77 and FY89. Figure 17 provides one benchmark concerning resident undergraduate tuition.

Figure 18
Resident Undergraduate Tuition Rates*:
Fiscal-Year-Equated-Student Basis



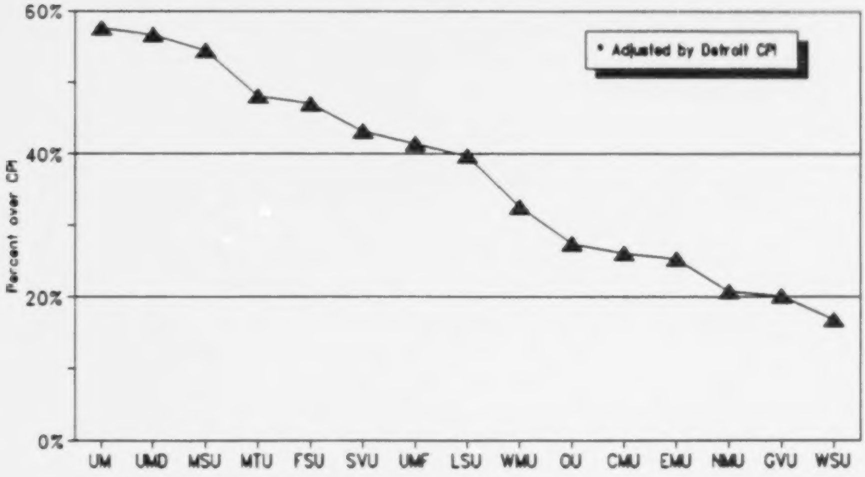
Data Source: HEIDI, a state higher education database

Figure 18 (above) reports the resident undergraduate tuition rate per FYES at each campus for the three benchmark years. One can see that tuition rates at the two largest universities are the highest in Michigan.

Some universities assessed larger real-dollar increases in the first half of the period, while others levied larger tuition increases since FY83. Wayne State was distinctive among the universities, for it had a real-dollar decline in undergraduate tuition from FY83 to FY89.

Figure 19 displays the distribution of undergraduate tuition increases for the fifteen campuses. For the period the range of percentage increases in CPI-adjusted terms is substantial. Wayne State's rates advanced 15% (slightly more than $300), while the University of Michigan-Ann Arbor's rates increased nearly 60% (about $1,150).

Figure 19
Resident Undergraduate Tuition Rate*
Constant-Dollar Increase: FY77 to FY89

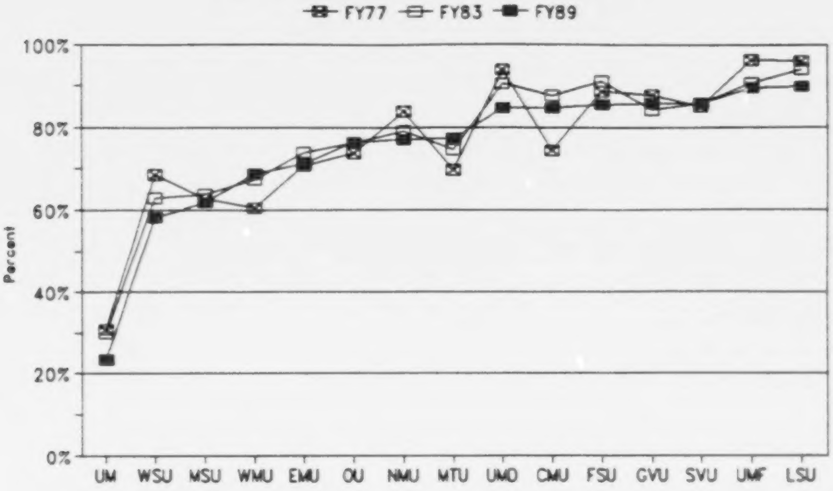


Data Source: HEDL, a state higher education database

Resident tuition comprises a larger share of total tuition revenue at some campuses than at others. Figure 20 (below) shows the range for the three benchmark years. While seven campuses have consistently received over 80% of their total tuition revenue from resident undergraduates, the University of Michigan has been below 40% in all three benchmark years. In FY89 UM received about 23% of its tuition revenue from resident undergraduates.

Given these differential shares of resident undergraduate tuition, policy-makers should consider these distinctive patterns among the public universities. Otherwise, dissimilar impacts of an uniform resident-undergraduate tuition policy may result. It

Figure 20
Resident Undergraduate Tuition as a Percentage of Total Tuition Revenue

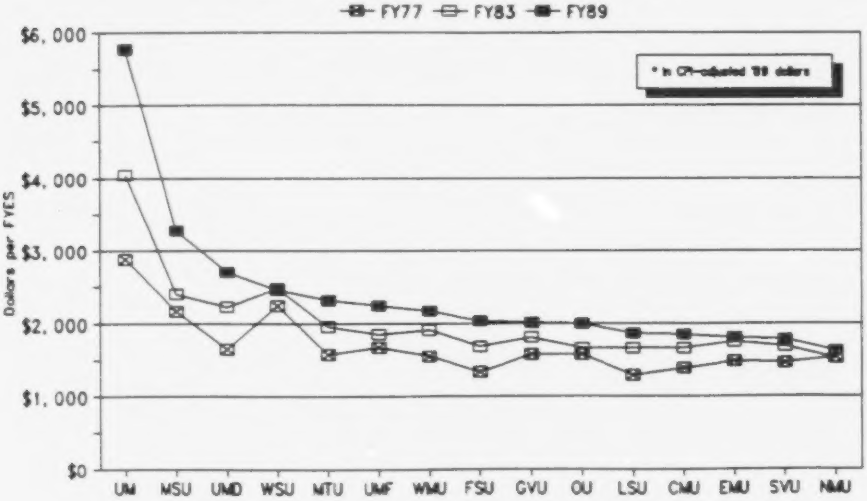


Data Source: HEIDI, a state higher education database

may be appropriate to consider formulation of tuition policy on the basis of tuition rate or on the percent of General Fund revenue attributed to resident undergraduate tuition.

Figure 21 shows the CPI-adjusted undergraduate tuition revenue (resident and non-resident revenue combined) per FYES for the three benchmark years. This chart provides visual evidence of the additional revenue per undergraduate at the University of Michigan-Ann Arbor that its national drawing power has generated. Given the

Figure 21
Tuition Revenue* per Undergrad FYES



* in CPI-adjusted '89 dollars

Data Source: HEIDI, a state higher education database

larger revenue per FYES, UM can more easily provide qualitative improvements in undergraduate education.

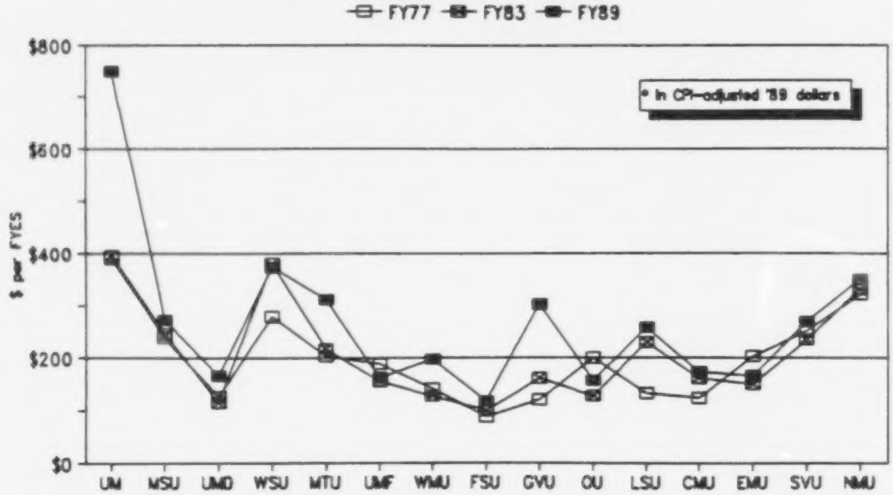
Whether the state should provide to public universities which do not have such a revenue source additional financial assistance dedicated to quality instructional improvement is a policy question that should be examined. Those extra funds might mean that resident students would not have to bear the burden of paying for instructional improvements through increasing tuition rates.

GF Financial Aid

A consideration of the issue of tuition increases should be accompanied by an awareness of institution-based financial aid as a mechanism to offset tuition/fee increases. Federal and state financial aid are important components of student financial assistance. But institution-based student aid [i.e., funds generated internally, usually from tuition revenue, that are awarded as financial assistance] is sometimes overlooked.

Figure 22 reports GF undergraduate scholarship funds per FYES at the three benchmark years. The sequence of universities in Figure 22 matches that of Figure 21 to enable the reader to easily compare undergraduate tuition revenue per FYES and GF undergraduate scholarship funds per FYES.

Figure 22
Institutional GF Undergraduate
Scholarship Funds* per FYES



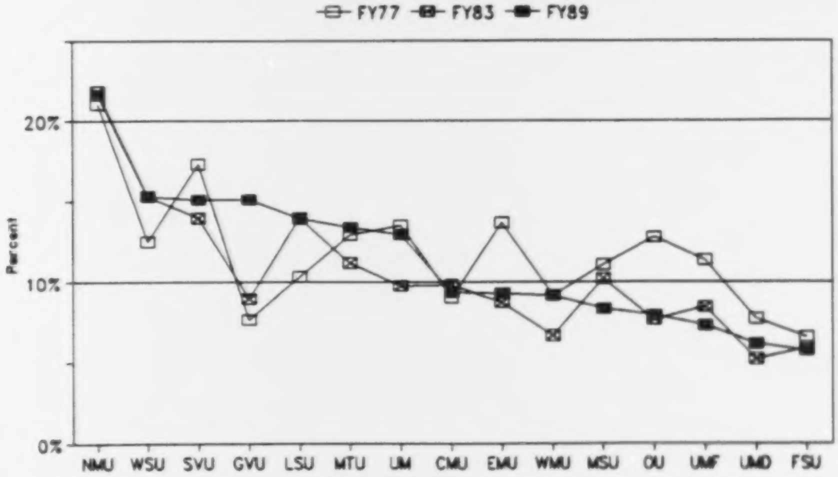
Data Source: HEIDI, a state higher education database

Among the fifteen campuses scholarship funds per FYES (in 1989 dollars) ranged from $100 to $425 in FY77. In FY89 the range expanded ($125 to $750). The University of Michigan-Ann Arbor was at the top in all three benchmark years. It appears that UM is attempting to mitigate the financial effect of its high tuition rates on UM undergraduates. The extent to which UM-Ann Arbor is re-distributing tuition revenue to help financially-needy students or is using donated scholarship monies to accomplish the same goal is unknown. Given the undergraduate revenue per FYES noted in Figure 21, UM-Ann Arbor has a singular ability to provide substantial institutional undergraduate scholarships.

Since the HEIDI database does not separate GF undergraduate scholarship monies into resident and non-resident aid or into need- and non-need based aid, further detailed analysis was not possible.

Another perspective on financial aid is provided by Figure 23. It displays GF scholarship funds as a percentage of undergraduate tuition revenue. One can see the wide range among the universities. The trend over time has not been uniform and may reflect some differences among the undergraduate student body.

Figure 23
GF Undergraduate Scholarship Funds
As a Percentage of UG Tuition Revenue



Data Source: HEIDI, a state higher education database

This review of revenues leads one to inquire about the types of GF expenditures to which these funds have been applied. That will be the focus of the next section.

An examination of public university expenditure trends can be conducted at various points on a continuum. At one end a researcher can do aggregate, inter-state comparisons – in the style of Halstead's work. Or at the other end, one can scrutinize university expenditures at the departmental or unit level, perhaps using a peer-university comparison group.

This report attempts to find a middle ground: to present system expenditure profiles accompanied by some disaggregation to show relative patterns among the public universities.

Michigan State, the University of Michigan-Ann Arbor, and Wayne State University account for nearly two of out every three dollars in GF expenditures. Thus, a system "average" may be heavily influenced by actions at one of or all three of these universities.

However, disaggregation of all fifteen universities on all categories of expenditures would require an enormous number of charts to display findings. For most charts the researcher decided to aggregate expenditures at the other twelve public universities and display that aggregate along with a system average and the separate expenditure patterns of the "Big Three."

This part of the report has the following sub-sections: (a) tuition paradigms; (b) system expenditure profiles; (c) instructional expenditures; and (d) non-instructional expenditures.

Tuition Paradigms

There appear to be at least two paradigms that can be used to explain how Michigan public universities decide future expenditure levels and tuition increases. Both assume the requirement of a balanced budget annually.

The first paradigm that can describe tuition decision-making is:

PARADIGM A:
Tuition is a Function of Expenditure Needs

In the internal budget-development process, it appears that some universities identify the type and level of program operations for which they wish to expend funds in the subsequent fiscal year. The scope and breadth of this analysis varies among the universities. Then they seek revenue (primarily state appropriations and tuition) to support the consciously-chosen expanded expenditure levels.

If estimated state appropriations and other non-tuition revenue are insufficient to support the planned expenditures, then the universities increase tuition rates to generate sufficient revenue to "fill the gap":

PLANNED EXPENDITURES - Appropriations - Other Revenue =
TUITION REVENUE SOUGHT

Paradigm A assumes that programmatic considerations are more important than market forces and enrollment demand. It also assumes that some level of analysis, rather than mere advocacy and acceptance of incrementalism across the entire university, has occurred.

Under this paradigm, some tuition increase restraint may flow from fixed cost/marginal cost considerations in instructional and non-instructional areas. But tuition restraint will primarily occur if non-tuition revenue (primarily State Appropriations) exceeds inflationary costs plus elective and mandated program improvement expenditures.

Hauptman identifies this view of tuition-setting and notes some basic issues in the decision-making process:

> "How much would it cost to make improvement in the academic and non-academic aspects of the institution? Where does the institution currently rank in terms of its faculty compensation relative to peer institutions, and where does it want to rank in the future? ... How sensitive are prospective students and their families to price increases, and will a tuition increase affect the composition of the next year's freshman class? " (Hauptman, 78).

These decisions, according to Hauptman, affect the definition of "quality" at a university. The underlying questions are whether universities systematically engage in such an examination of operations and whether students and their families are willing to pay the "price" (tuition) for quality improvements in instruction and other related services provided by universities.

Hauptman concludes that a nearly inelastic demand curve — "charging closer to what the market will bear" — has become a common practice in higher education.

Another paradigm useful in understanding tuition decision-making involves determination of the level of tuition increase that the market will bear and adjustment of expenditures accordingly:

PARADIGM B:
Tuition is a Function of Enrollment Demand and Market Forces.

Paradigm B focuses more attention on expenditure cost containment and concomitant role/mission and program decisions. It seems more sensitive to affordability aspects of higher education. For example, use of Paradigm B may require cost containment actions such as paring of lower-priority instructional programs, restraint on the growth in the number of employees, or elimination of some non-instructional activities to restrain costs.

Paradigm B yields the following equation:

PROJECTED TUITION REVENUE + Appropriations + Other Income =
REVENUE FOR EXPENDITURES

Under Paradigm B, universities initially decide the level of tuition that the "market" will bear without diminishing enrollment. Then they restrict expenditures based on the availability of non-tuition revenue. If state appropriations are less than requested or anticipated, then universities would restrict expenditures further. Student and family affordability of a public university education seems to be a more central element of tuition decision-making under Paradigm B.

Though both paradigms are likely to exist among the decision-makers on a university campus, one or the other seems to predominate on a single campus or at a given time.

Selection and use of Paradigm B rather than Paradigm A is likely to create a different mind-set regarding university operations, role and mission, program mix, enrollment planning, cost containment, and other important decision-making.

The mind-set of the financial leaders should also be in synchronization with the mind-set of the academic leaders on a campus, lest there be internal disagreement concerning the paradigm under which the university should function.

System Expenditure Profiles

To assist lawmakers in understanding the current status of university expenditures and identification of areas of possible cost constraint, examination of expenditure trends for the period FY77 to FY89 seemed appropriate.

General Fund data concerning enrollment, tuition, and instructional and non-instructional expenditures in the HEIDI database became the focus of analysis.

To make comparisons of nominal and inflation-adjusted increases by program areas and by level of education offered, the Higher Education Price Index (HEPI) was used. Kent Halstead developed this index as a measure of inflation for goods and services purchased by colleges and universities. It encompasses faculty and staff compensation, equipment, supplies and other typical higher education expenditure areas.

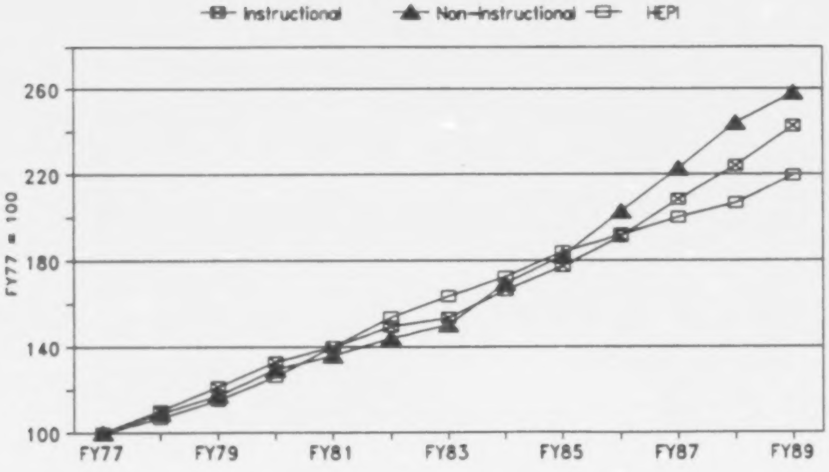
Initially, the review encompassed system-wide General Fund expenditures in the major categories of Instruction, Academic Support, Auxiliary Enterprises, Financial Aid, Institutional Support, Plant Operations, Public Service, Research, Student Services, and Mandatory Transfers. [Appendix B contains a glossary of these and other important terms]. Trends identified in the initial analysis were examined further.

During the period of FY77 to FY89 state appropriations advanced about 124% while the Higher Education Price Index (HEPI) increased nearly 120%. Public university expenditures for the same period increased by 134%. Thus, most of the improvement of university education in the developing Information Age in Michigan appears to have been financed from sources other than the state – primarily student tuition and, secondarily, internal reallocation of expenditures.

Figure 24 provides visual representation of the phenomenon that General Fund expenditures have been increasing more rapidly than inflation (as measured by HEPI). Both GF Instruction and GF Non-Instruction expenditures exceeded HEPI from FY77 to FY80 (the time period in which the original Investment Needs Model was in operation). In the lean years of FY81 to FY83, they matched each other but fell behind HEPI.

Figure 24

Trend of GF Expenditures:
Instructional & Non-Instructional



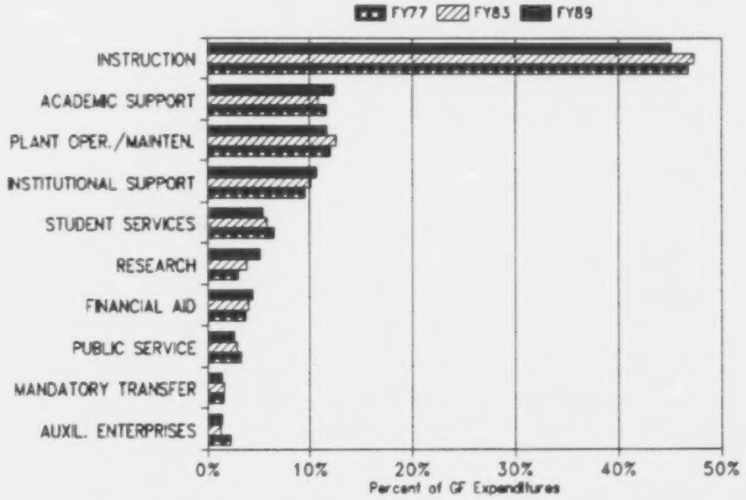
Data Sources: HEIDI, a state higher education database, and Research Associates

Since FY84, growth in GF Non-Instruction spending has exceeded both HEPI and GF Instruction expenditures. And the gap between the two seems to be widening.

What might explain these trends and the growing divergence between instructional and non-instructional spending? Have the universities increased their faculty cadres during this period? Are non-instructional employees increasing in number? Are compensation levels in the non-instructional side advancing faster than on the instructional side? Have cost containment measures been more effective on the instructional side? Are public universities now subjected to greater demands to provide non-instructional services to college students? Is spending in certain non-instructional areas growing faster than in others?

The first step in exploration of these questions is an examination of General Fund expenditures for the fifteen public universities at the three benchmark years of the period under study. As Figure 25 shows, Instruction and Student Service expenditures have declined on a relative basis (even though headcount increased during the period). Institutional Support, Academic Support, Institutional GF Financial Aid, and Research spending have increased on a relative basis.

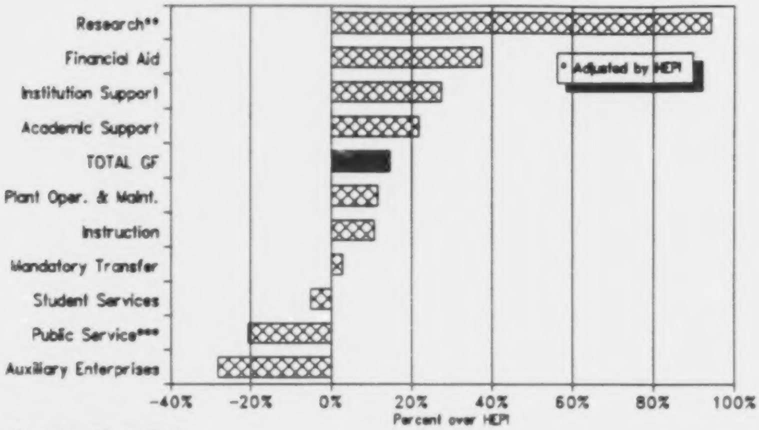
Figure 25
Distribution of GF Expenditures:
By Major Institutional Category



Data Source: HEIDI, a state higher education database

Considering the universities as an aggregated system, which major categories of GF spending grew the most during this period? Figure 26 below shows Research exhibited the largest constant-dollar percentage increase (+94%). The surge in research expenditures since FY86 is partially due to the infusion of state funds appropriated for the Research Excellence Fund [FY89 REF spending was approximately $26 million].

Figure 26
Trend of General Fund Expenditures*
Constant-Dollar Increase: FY77 to FY89



** Includes AES and REF funds

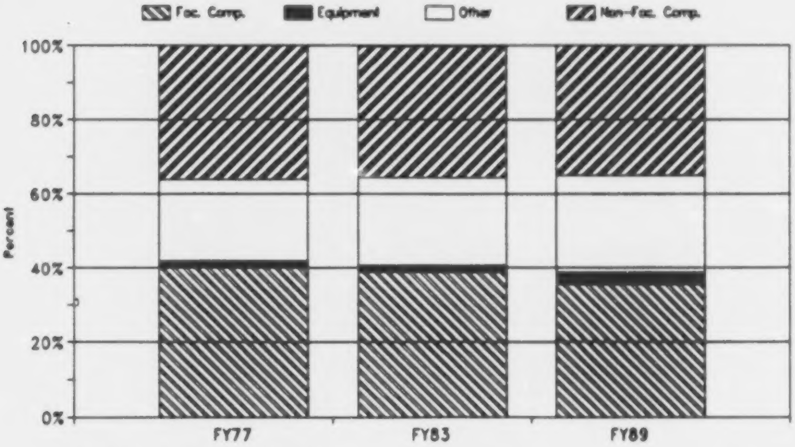
*** Includes CES funds

Data Source: HEIDI, a state higher education database

GF Financial Aid growth was second (+37%), followed by Institution Support (+27%) and Academic Support (+22%). Besides Research, each of these three areas exceeded the percentage increase for Total GF spending (+14%).

Areas that exceeded HEPI but lagged behind the Total GF increase were Plant Operations and Maintenance (+12%), Instruction (+11%), and Mandatory Transfer (+3%). Categories lagging behind HEPI [with constant-dollar expenditure increases less than inflation] were Auxiliary Enterprises (-28%), Public Service (-11%), and Student Services (-5%).

Figure 27
General Fund Expenditures:
By Major Category



Data Source: HEIDI, a state higher education database

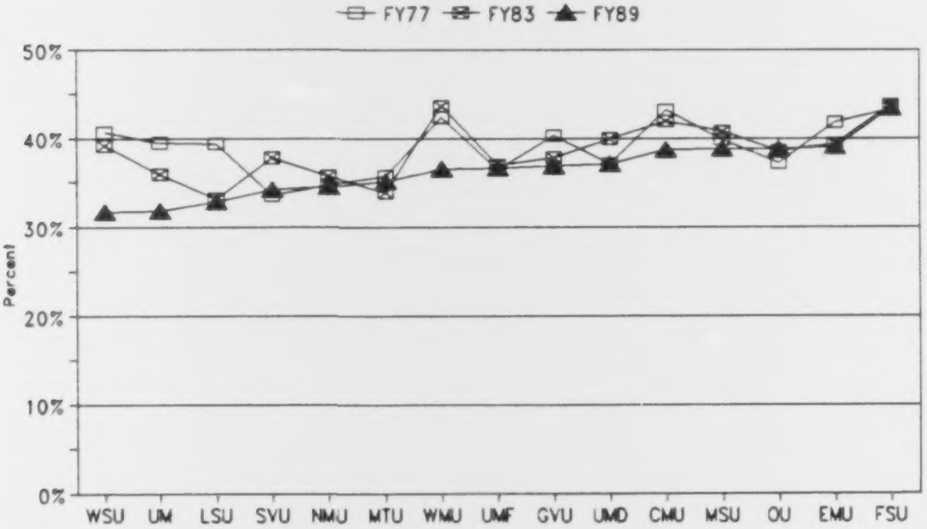
Another view of expenditure trends is shown in Figure 27 (above). It displays the system aggregate of faculty compensation (which includes fringe benefits), non-faculty employee compensation, equipment expenditures (which include library acquisitions), and Other expenditures. One notes that while faculty compensation has decreased as a percentage of Total GF expenditures from FY77 to FY89, the fastest-growing categories are Equipment and Other expenditures. It appears that if the current trend continues, in a few years Equipment and Other expenditures will exceed Faculty Compensation as a percentage of Total GF expenditures.

Let us now proceed to examine in more detail the components of the instructional and non-instructional expenditure categories.

Instructional Expenditures

A major component of Instructional spending is Faculty Compensation. One would expect that faculty compensation trends would closely match enrollment trends. We know from Figure 2 that headcounts are up during this period. Yet, as Figure 28 reports, faculty compensation as a percentage of Total GF expenditures has declined for most campuses during the period under examination.

Figure 28
Faculty Compensation as a Percentage
of Total GF Expenditures

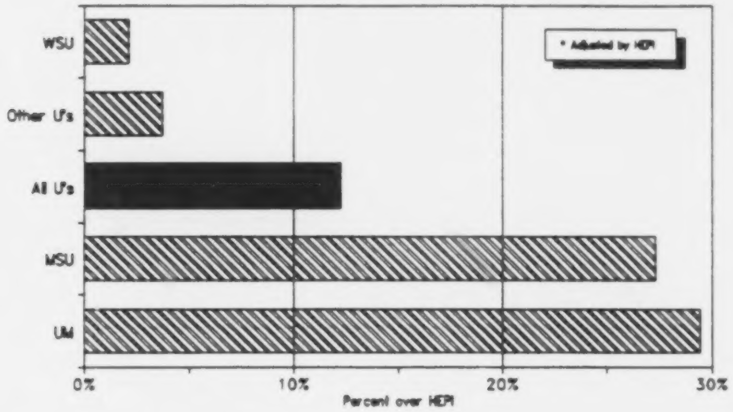


Data Source: HEIDI, a state higher education database

On occasion, university representatives argue that large tuition increases are necessary to pay faculty a just compensation. In FY89, for perhaps the first time in the system's history, total tuition revenue for the system exceeded the total expended on faculty compensation.

Constant-dollar Instructional spending per FYES increased by approximately 12% (thus lagging the Total GF increase). At the two universities with the highest tuition rates – MSU and UM-Ann Arbor – the percentage increases were 27% and 29%, respectively. Figure 29 displays the increases for the major universities, all others combined, and for the system. By considering FYES, one can link spending changes to enrollment changes in the period.

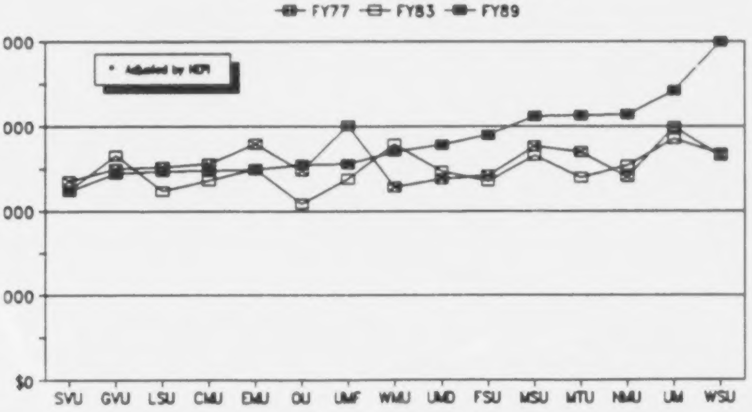
Figure 29
Instructional Expends.* per FYES
Constant-Dollar Increase: FY77 to FY89



Data Source: HEIDI, a state higher education database

When one further disaggregates the data to examine only undergraduate instruction expenditures per FYES, one sees considerable variation. Figure 30 reveals that most universities have increased their undergraduate instruction spending per FYES since

Figure 30
Instructional Expenditures*
Per UG Fiscal Year Equated Student



Differences in instructional allocation procedures for WSU explain the large increase from FY83.

Data Source: HEIDI, a state higher education database

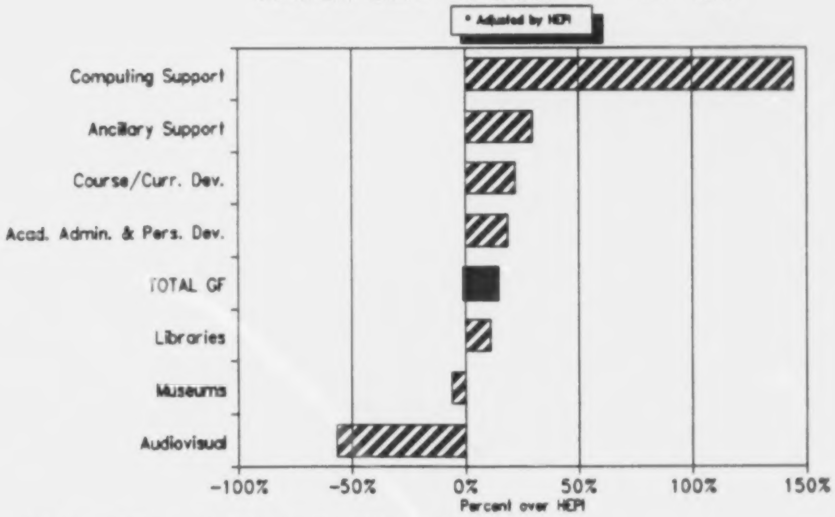
FY83. Since several universities experienced some enrollment decline in the period, the ratio for them would have increased with no change in constant-dollar spending.

Non-Instructional Expenditures

Now we will turn to the non-instructional side of operations and examine several non-instructional areas to observe expenditure patterns and trends, and to identify spending categories that may have opportunities for cost containment.

First, let us consider Academic Support. Figure 31 reports the trend of Academic Support expenditures disaggregated by its constituent elements. In Computing Support the public universities as a system exhibited a real-dollar percentage increase of 140% from FY77 to FY89. The large increase for computing support to the instruction, research, and public service missions of the universities — the core of the academic enterprise — shows the universities have engaged in a massive effort to provide advanced learning resources to students and sophisticated teaching and research resources to the faculty.

Figure 31
Trend of Academic Support Expenditures*
Constant-Dollar Increase: FY77 to FY89



Data Source: HEDI, a state higher education database

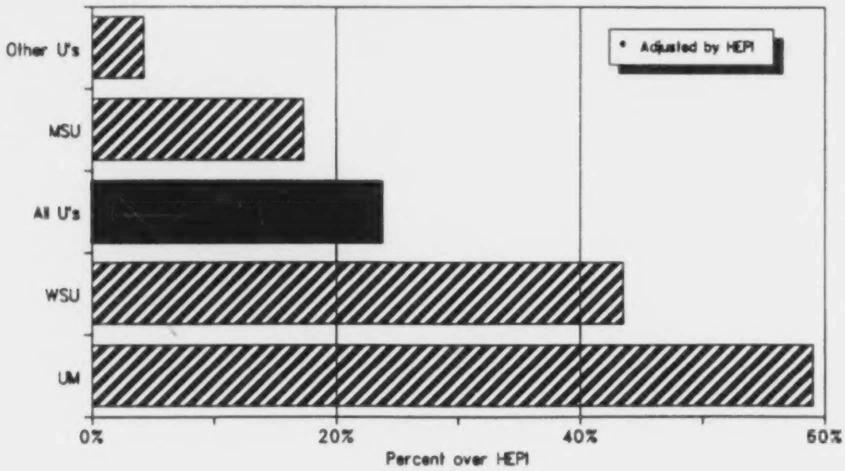
On the other hand, Audiovisual spending was nearly 60% below inflationary increases. These two trends reveal the changing nature of technological support of university education.

Ancillary Support, comprising core academic enterprise support activities that do not fit under any of the other Academic Support sub-categories, rose nearly 30% above HEPI. Expansion of expenditures in this area needs to be examined in more detail at each university to ascertain the centrality and appropriate magnitude of such enterprises.

It is interesting that Academic Administration and Personnel Development lagged behind the Total GF increase. This category involves activities related to administrative support and management direction to the core of the academic enterprise. It includes school or college deans and subordinate staff; sponsored research development and administration; and faculty development programs.

Figure 32 disaggregates Academic Support by universities rather than by subcategories. While all-university spending on Academic Support per FYES was 24% above inflation, the University of Michigan-Ann Arbor and Wayne State showed increases of 58% and 43% above HEPI, respectively. The substantial computerization of undergraduate and graduate education at UM-Ann Arbor probably accounted for much of its extra spending in this area. While Michigan State spent 16% more in real-dollar terms, the other twelve universities in aggregate expended slightly more than inflation (as measured by HEPI) in Academic Support per FYES.

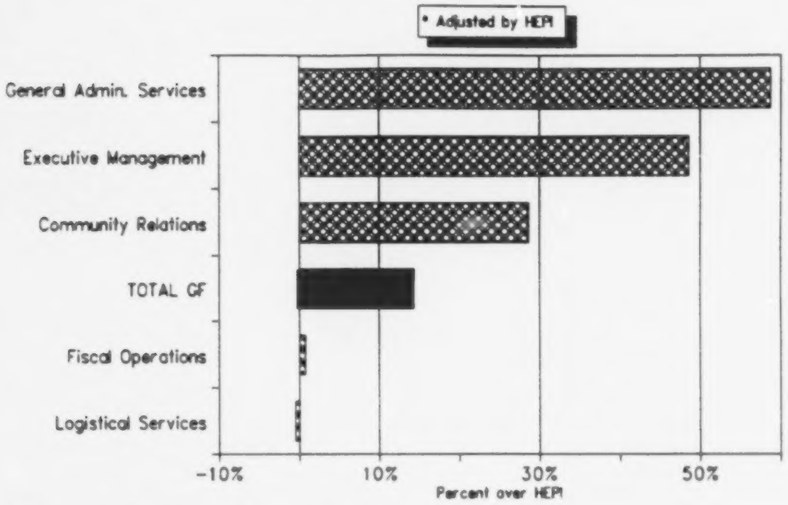
Figure 32
Academic Support Expenditures* per FYES
Constant-Dollar Increase: FY77 to FY89



Data Source: HEIDI, a state higher education database

When one turns to Institutional Support, one observes that expenditures in most sub-categories exceeded inflation during the period. While Total GF spending in creased 14%, Figure 33 (below) reveals that three areas exceeded that level. General Administrative Services surged nearly 60% over inflation, and spending in Executive Management and Community Relations showed real-dollar gains of 48% and 28%, respectively. These increases are in sharp contrast to the slight increase in Academic Administration and Personnel Development displayed in Figure 31.

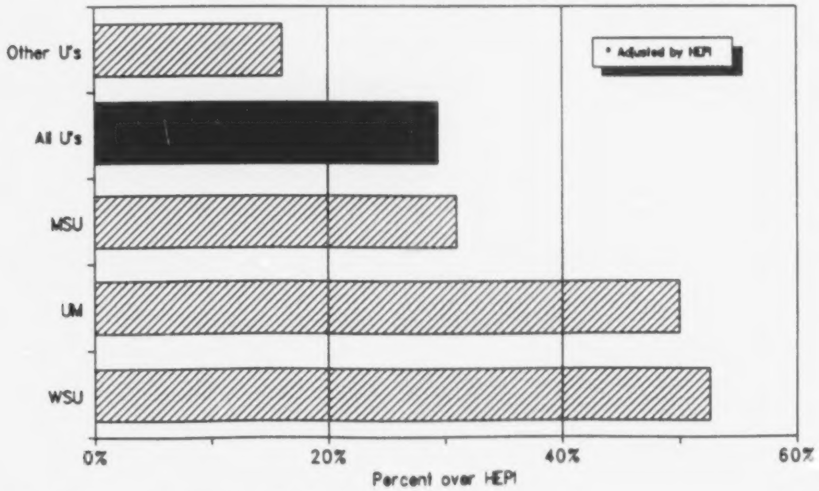
Figure 33
Institutional Support Expenditures*
Constant-Dollar Increase: FY77 to FY89



Data Source: HEIDI, a state higher education database

Figure 34 disaggregates Institutional Support expenditures per FYES by major universities individually and other universities in aggregate. While system spending in this area increased by 29% over HEPI, Wayne State and University of Michigan reported increases of 53% and 50%, respectively. Michigan State increased spending slightly more than the aggregate of all universities, while the other twelve universities in aggregate reported increases of about 15% over HEPI.

Figure 34
Institutional Support Expends* per FYES
Constant-Dollar Increase: FY77 to FY89

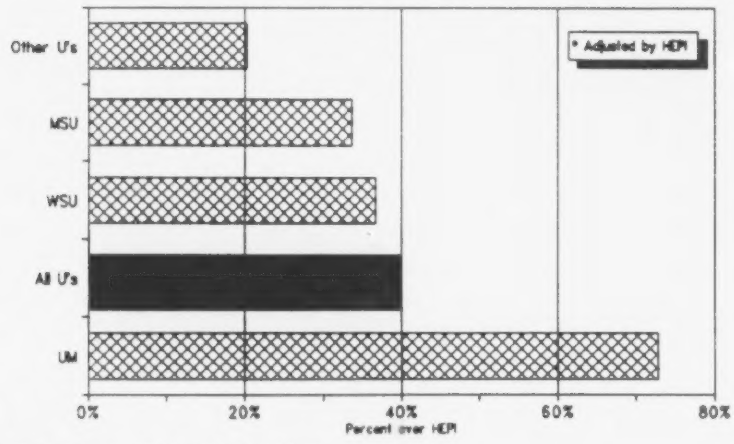


Data Source: HEIDI, a state higher education database

Let us now turn to GF Financial Aid. One recalls that Figure 20 displayed the trend of GF undergraduate scholarships per FYES by individual campus. While total GF financial aid grew by 38%, Fellowships advanced by 63% over HEPI and Scholarships by 29%.

When one disaggregates GF financial aid spending per FYES, one notices in Figure 35 that the University of Michigan expended over 70% more (in real-dollar terms) in FY89 compared to FY77. [See Figure 22 for undergraduate aid per FYES.] It appears that UM sought to mitigate its large tuition increases for undergraduates and graduate students with substantial GF financial aid. The smaller twelve universities in aggregate spent more than 20% over inflation to help undergraduates and graduates.

Figure 35
GF Financial Aid Expends.* per FYES
Constant-Dollar Increase: FY77 to FY89



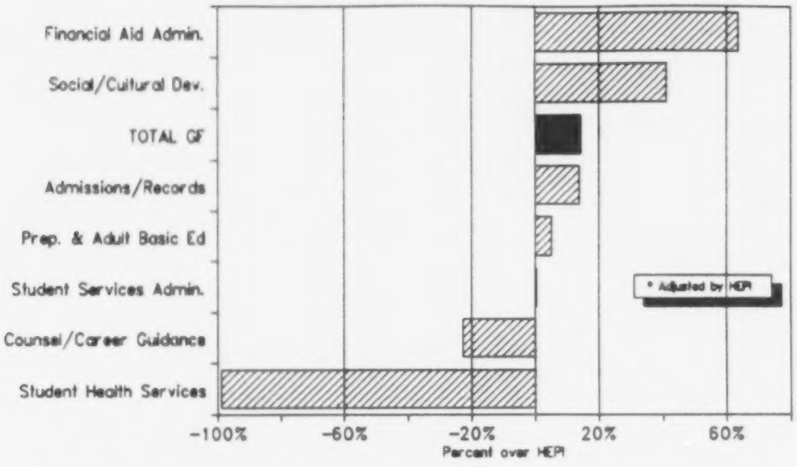
Data Source: HEIDI, a state higher education database

Student Service spending declined in real-dollar terms during the period, but disaggregation into constituent sub-categories reveals differential trends. Figure 36 (below) shows that spending on student health services declined almost 100%. This major change can be explained by the Legislature's inclusion of language recommending student health services to be self-supporting in the "boilerplate" of the higher education appropriations bill.

Financial Aid administration exhibited a very large percent gain in real-dollar terms. While computerization has undoubtedly brought some efficiencies to this area, the increasing number of students seeking financial assistance has apparently meant that more applications, and the required family financial statements for financial aid, have been filed by students, and this trend increased the workload in this area. Whether there are opportunities for considerable cost containment in this sub-category is uncertain.

Figure 36

Trend of Student Services Expenditures*
Constant-dollar Increase: FY77 to FY89



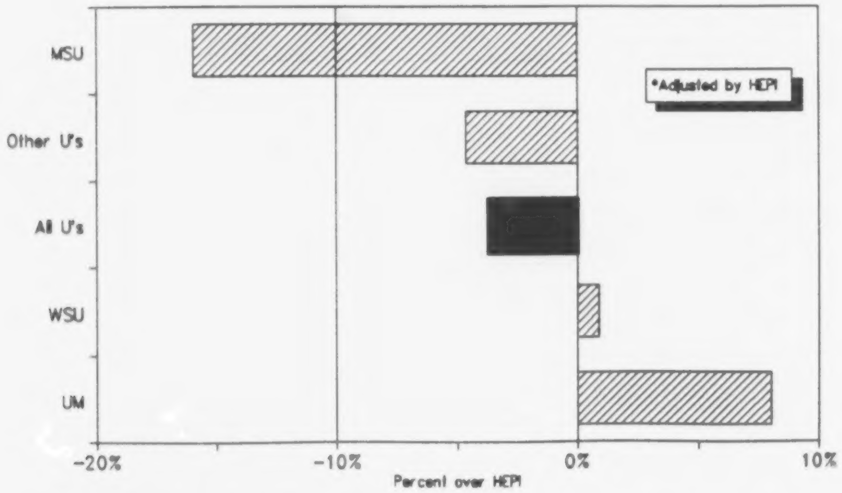
Data Source: HEIDI, a state higher education database

Social/Cultural development spending has advanced in constant-dollar terms, as the universities have invested more dollars in modifying the "climate" of campus life. The Counseling/Career Guidance decline in real dollars is surprising.

When one disaggregates Student Services spending per FYES by university, one encounters a disparate pattern. Figure 37 reveals that while Michigan State showed a decline, the University of Michigan and Wayne State reported real-dollar increases. What accounts for the differing trends is unknown at this time.

Figure 37

Student Services Expends.* per FYES
Constant-Dollar Increase: FY77 to FY89

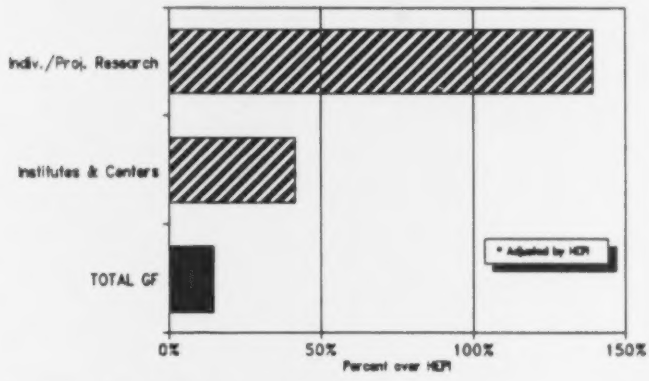


Data Source: HEIDI, a state higher education database

Turning now to Research expenditures, we discover that this area had the largest total increase (+94%). As reported in Figure 38, Individual/Project research spending – including Agriculture Experiment Station operations – surged 140%. Research expenditures by Institutes and Centers advanced over 40% [AES funds at the beginning of the period were in the Individual/Project sub-category in FY77 and in Institutes/Centers in FY83 and FY89. For consistency, those funds have been included in the former category for each fiscal year under study].

Figure 38
Research Expenditures*
Constant-Dollar Increase: FY77 to FY89

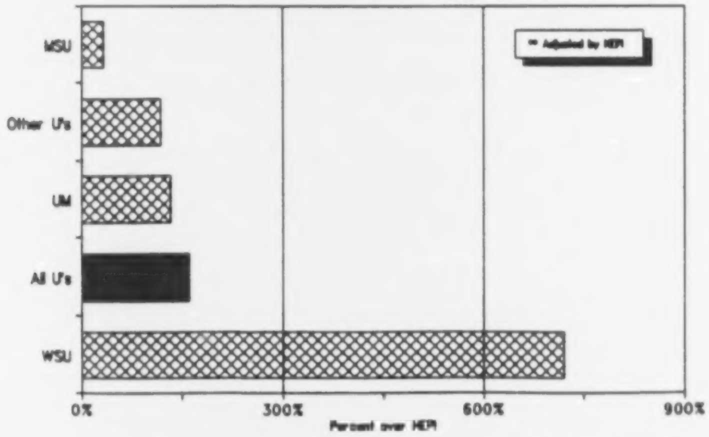
[Includes Agricultural Experiment Station funds]



Data Source: HEIDL, a state higher education database

Figure 39 disaggregates GF research spending by university, and it excludes both Research Excellence Fund and Agricultural Experiment Station dollars. These adjustments reveal internal shifts toward research spending. The total percentage increase over inflation is now over 130%. Wayne State began with a small base in FY77 and

Figure 39
GF Research* Expenditures**
Constant-Dollar Increase: FY77 to FY89



Data Source: HEIDL, a state higher education database

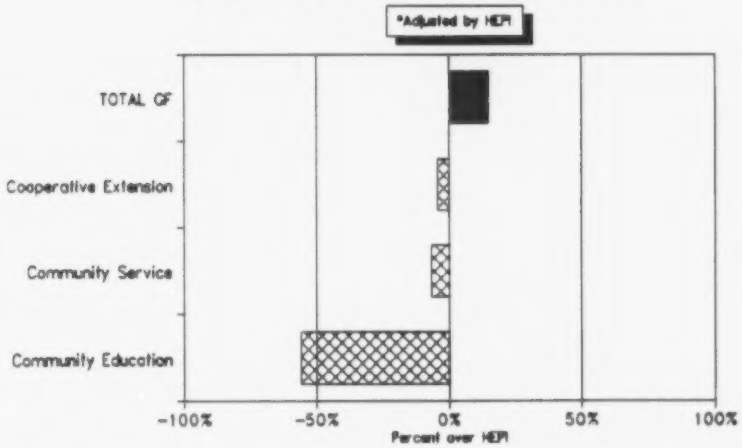
* Excludes AES & REF funds

increased its GF research spending by over 700% above HEPI. Michigan State reported an increase of over 50%, below the all-university percentage.

As reported in Figure 25, Public Service expenditures (including Cooperative Extension Service funds) did not keep up with inflation from FY77 to FY89. Figure 40 shows the three sub-categories in this area; all three declined, with Community Education exhibiting the sharpest decrease. Since the Cooperative Extension Service funds comprise most public service expenditures in the state, and since Michigan State's budget contains that unit, disaggregation by university would not have provided additional insight.

Figure 40

Trend of Public Service Expenditures*
Constant-Dollar Increase: FY77 to FY89



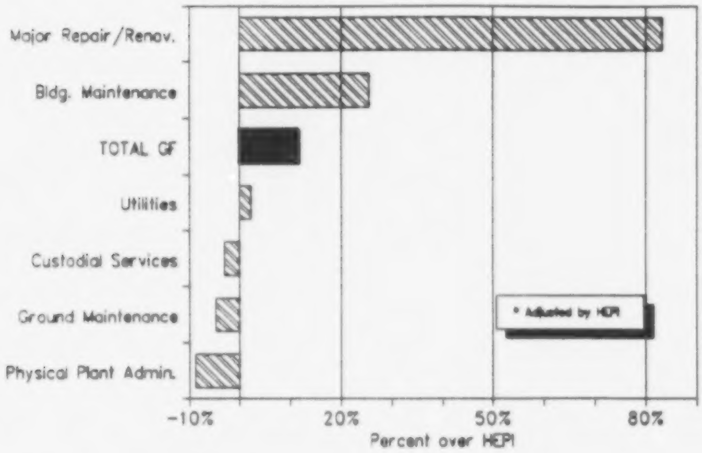
Data Source: HEIDI, a state higher education database

The trend of Plant Operations and Maintenance expenditures, as identified in Figure 25, was up 12% over HEPI. Since the HEIDI database in FY77 did not disaggregate those expenditures, Figure 41 (below) shows sub-category spending for FY78 to FY89. While physical plant administration, ground maintenance, and custodial services all showed real-dollar declines and utilities a modest percentage increase, building maintenance and major repair/renovation showed gains. Spending on repair and renovation surged ahead by over 80% above inflation, in part due to special state financial support for such projects. Universities were vigorously trying to address their maintenance/repair needs.

When one looks at Figure 42 (below) and sees the disaggregated plant operation & maintenance spending per Gross Square Footage of physical plant, unequal trends are evident. Michigan State reported a decline of over 25%, mainly due to efficiencies related to utilities. On the other hand, Wayne State reported a modest increase, also due primarily to utility costs.

Figure 41

Trend of Physical Plant Expenditures*
Constant-Dollar Increase: FY78 to FY89



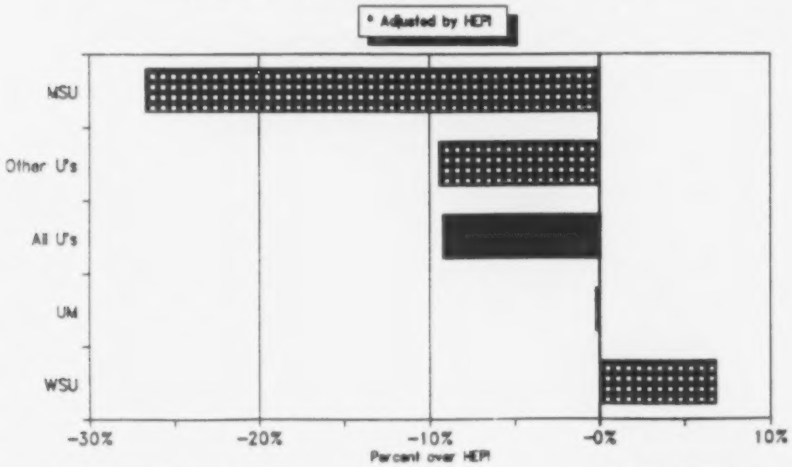
Data Source: HEIDI, a state higher education database

David Adamany, one of the consultants to the Senate Select Committee and president of Wayne State University, addressed the issue of physical plant problems for Michigan universities in correspondence following his formal presentation.

> "... if the public wants to understand whether costs are high or low, and thus whether tuition is being well spent or not, they need to understand that we are allowing plant to deteriorate at a rapid rate. This would suggest that even with current tuition revenues, Michigan's universities are not able to meet

Figure 42

Plant Oper/Maint. Expends* per GF GSF**
Constant-Dollar Increase: FY77 to FY89

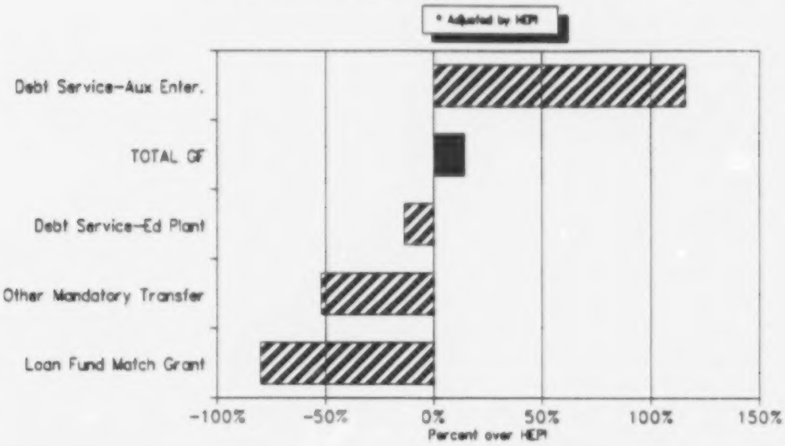


Data Source: HEIDI, a state higher education database

** GF GSF = General Fund Gross Square Footage their costs. There is a different way to put this: if we are making instructional, academic support, and student service expenditures while neglecting plant, all we are really doing is serving today's students at the expense of tomorrow's."

Figure 43

Mandatory Transfer Expenditures*
Constant-Dollar Increase: FY77 to FY89

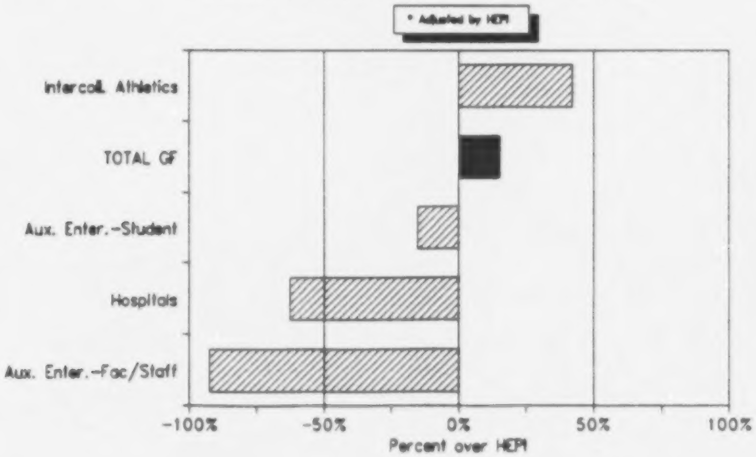


Data Source: HEDA, a state higher education database

Figure 43 identifies Mandatory Transfer spending for the period; this area showed a slight increase. Disaggregation reveals unequal sub-category trends. While three of the sub-categories declined (and Loan Fund Match Grant and Other Mandatory Transfer decreased over 50% each), debt service for auxiliary enterprises surged ahead by over 120% in real-dollar terms.

Figure 44

Auxiliary Enterprise Expenditures*
Constant-Dollar Increase: FY77 to FY89



Data Source: HEDA, a state higher education database

It may be that refinancing of capital debts has caused such expenditures to appear in this funding category. Disaggregation by university would not provide additional insight, since in FY77 only a few universities had auxiliary-enterprise debt spending, and in FY89 only a few (but not the same) universities spent funds for this purpose.

The final non-instructional expenditure category is Auxiliary Enterprises. Figure 25 reported a total real-dollar decline of nearly 30%. Separation of spending into the constituent sub-categories in Figure 44 (above) reveals that three areas had real-dollar declines, while one – Intercollegiate Athletics – grew by 40% over inflation. Since Michigan State and the University of Michigan do not include intercollegiate athletic expenditures in the General Fund, the growth in this area has occurred at the other 13 universities. The large percentage decline in auxiliary enterprises-faculty/staff expenditures involves a budget area of less than $45,000 in aggregate FY89 spending.

EMPLOYEE TRENDS

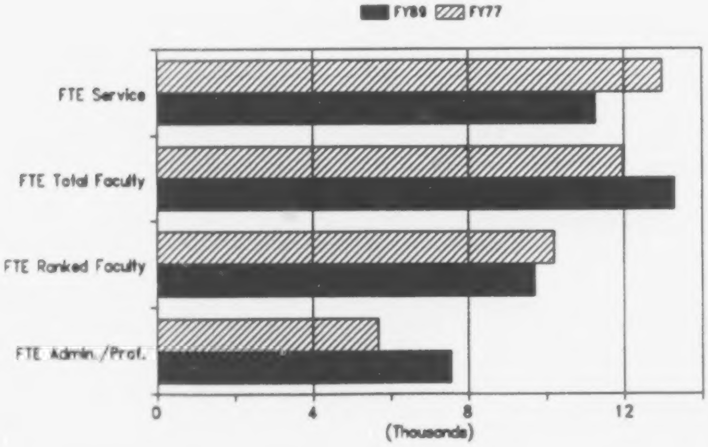
Another area of importance related directly to university spending and indirectly to tuition charges is the employee cadre of the university. If a university expands its faculty or administrative infrastructure beyond a level congruent with enrollment trends or role/mission obligations, expenses will increase beyond a level necessary for cost-effective and cost-efficient operation of the academic enterprise.

This section of the report will examine (a) faculty employment trends and (b) administrative/professional employee patterns.

Figure 45 displays employee trends for the period FY77 to FY89. One notices that in FY77 Service personnel were the largest employee group at the public universities, with approximately 13,000 employees. FTE Total Faculty then numbered about 12,000, while the size of the cadre of FTE Ranked Faculty (i.e, tenured and tenure-stream faculty) was about 10,000. FTE Administrative/Professional (A/P) employees numbered less than 6,000.

Figure 45

University Employee Trends
FY77 Compared to FY89



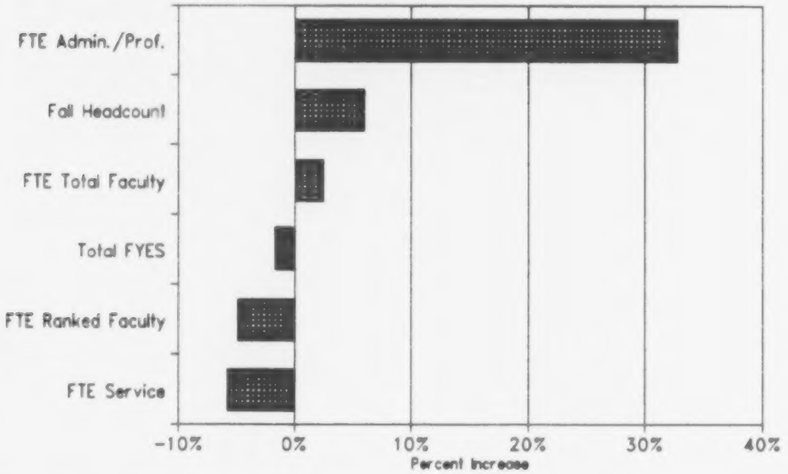
Data Source: HEIDI, a state higher education database

In FY89 two of the categories increased in number – FTE Total Faculty and FTE A/P's – and two declined – FTE Ranked Faculty and FTE Service personnel.

It is evident that the universities have changed the mix and nature of their employee cadre during this period. In FY89 adjunct and part-time faculty taught more courses. At some campuses A/P's were performing work that had been previously done by faculty, e.g., advising. Also, during this period some universities reclassified some Service employees as A/P's based on their expanded responsibilities.

Figure 46 reports employee and enrollment trends. Enrollment patterns diverged during this period. Headcount increased by 5%, while FYES declined about 2% (one effect of the reduced course load carried by the average student in FY89).

Figure 46
Enrollment & Employee Trends
Percent Change: FY77 to FY89



Data Source: HEDI, a state higher education database

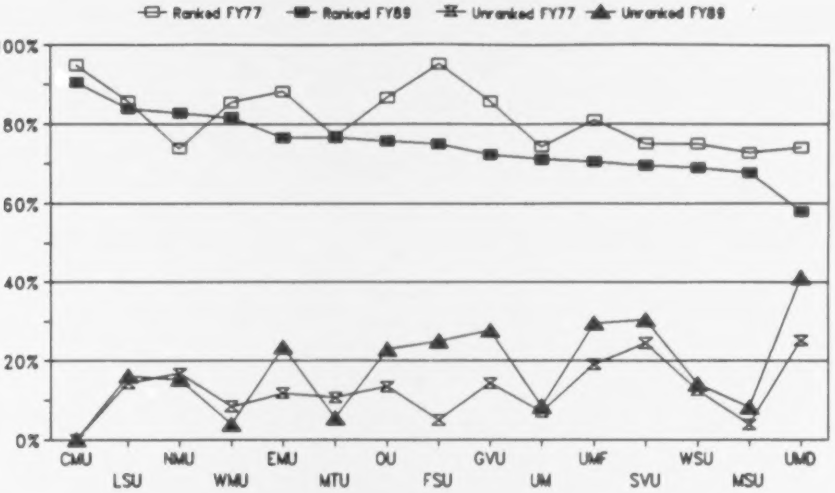
There was more variance among the employee groups. Full-time equivalent Service employees decreased about 5%, and the number of Ranked Faculty declined by 5% (slightly exceeding the FYES decline). Meanwhile, the number of FTE Total Faculty increased about 3%, still less than the Headcount increase. The most noticeable change was the surge in FTE Administrative/Professional (A/P) employees – a 33 % increase.

Faculty Trends

Figure 47 (below) reports the relative percentage of Ranked and Unranked Faculty at each of the public universities for FY77 and FY89. Graduate Assistants are excluded from this chart.

One notices that there has been a general trend of a lower percentage of Ranked Faculty at all but one university. The range between the universities with the highest and lowest percentages has expanded since FY77.

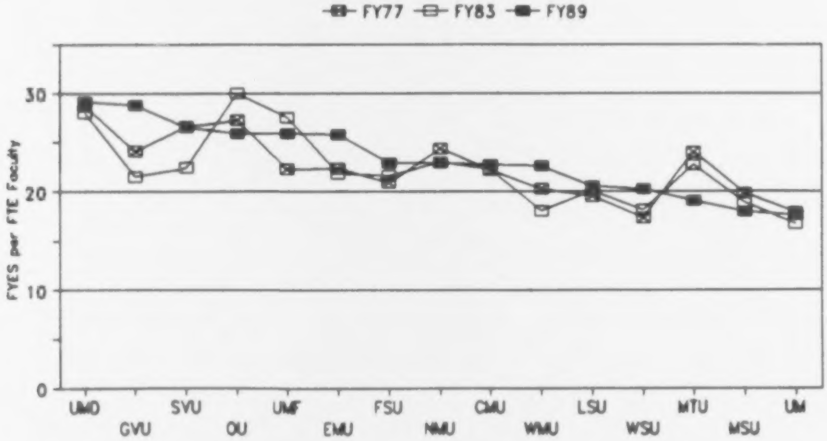
Figure 47
Ranked and Unranked FTE Faculty:
Percentage in FY77 and FY89



Data Source: HEIDI, a state higher education database

A remarkable aspect of Figure 48 , which reports FYES per FTE Total Faculty, is that the University of Michigan-Ann Arbor has had nearly the same ratio at all three benchmark years. That may be partially due to its preponderance of full-time students or to its apparent close matching of faculty resources to student enrollment.

Figure 48
Fiscal Year Equated Students
Per FTE Total Faculty

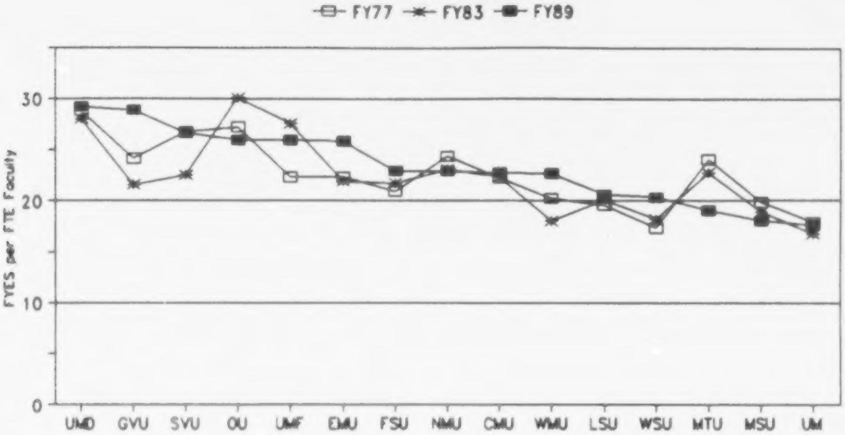


Data Source: HEIDI, a state higher education database

Figure 49 (below) portrays another view of faculty productivity. It displays FYES per FTE Ranked Faculty, i.e., those faculty who have earned tenure or who are in the

Figure 49

Fiscal Year Equated Students
Per FTE Ranked Faculty



Data Source: HEIDI, a state higher education database

tenure-earning track. Some describe them as "the heart and soul of the university." The range is even larger than in Figure 48. Again, ratios have generally increased since FY77. This is another indication that universities have carefully controlled the size of their faculty cadre in relation to enrollment.

Given this evidence, it appears that the increase in the number of Administrative/Professional employees (indirectly evident in the non-instructional expenditure charts presented in an earlier section of this report) may be a factor that has contributed to large tuition increases. We will now examine A/P trends.

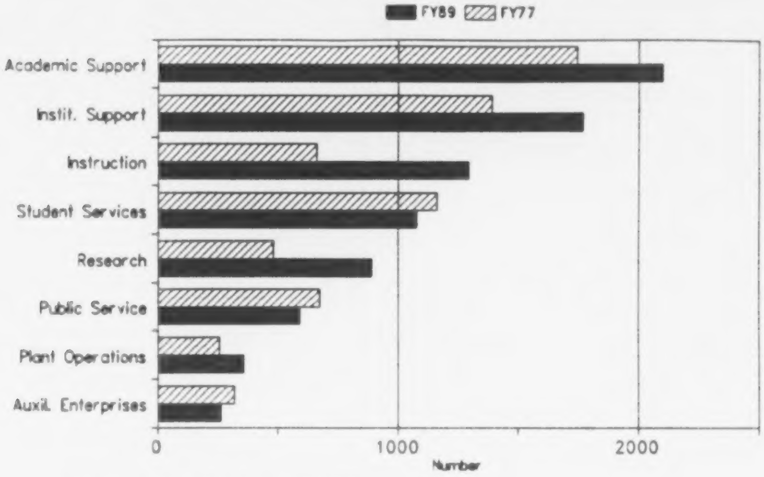
Administrative/Professional Trends

Since A/P's perform duties in several areas of a university, we will first report system trends. Figure 50 (below) shows that A/P's increased in five out of the eight categories from FY77 to FY89. Declines in Student Services, Public Service, and Auxiliary Enterprises are apparent.

Comparing the corresponding bars in Figure 50, one notes that, surprisingly, the largest increase occurred in the Instruction area, with a surge of slightly more than 600 A/P's (a 95% increase). Some of this increase may be attributable to faculty who take on some project work – frequently during the summer – and become a part-time Administrative/Professional for the duration of a project. Academic computing services, lab technology, and educational Centers are areas in which such projects and such part-time A/P's may be found.

The Research category had the second-largest A/P employee growth – slightly more than 400. In FY77, Research's cadre was about one-half that of Student Services; in FY89 it was now approaching numerical parity with Student Services A/P's. Institu-

Figure 50
Administrative/Professional Employees
System GF Levels: FY77 & FY89

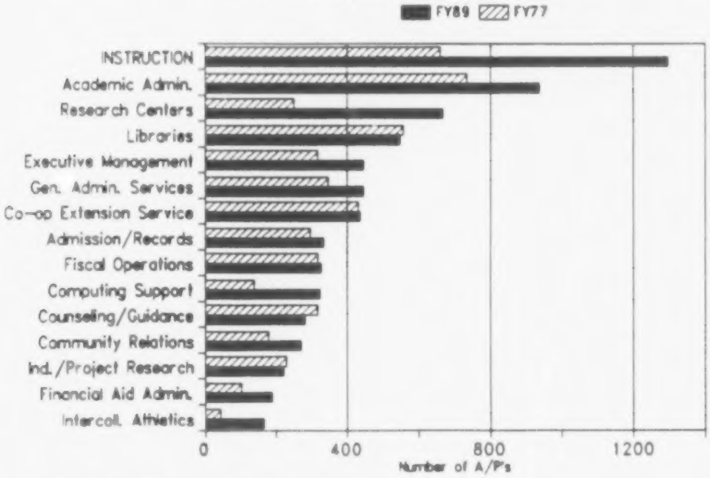


Data Source: HEDL, a state higher education database

tional Support and Academic Support each enlarged their cadres by approximately 350 A/P's.

Disaggregation of A/P employee data by sub-categories with the largest number of A/P's reveals that in the non-instructional realm Academic Administration, Research Institutes/Centers, Libraries, and Executive Management had the largest number of A/P's in FY89. Figure 51 also shows that the Instruction category had nearly 1,300 A/P's system-wide in FY89.

Figure 51
Admin./Professionals Ranked by Category
With Largest Number of A/P's

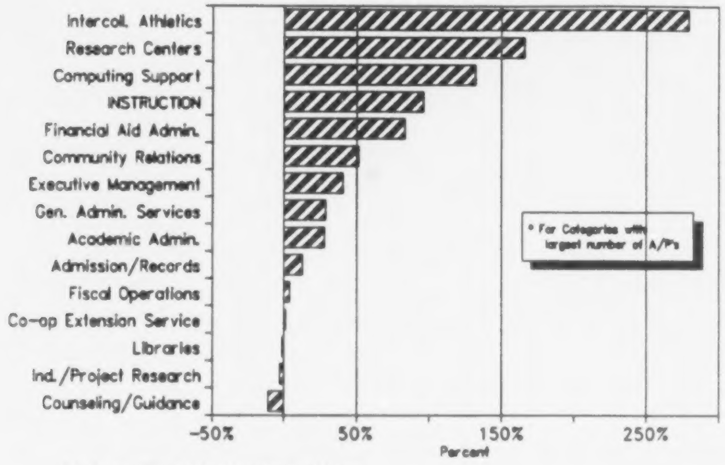


Data Source: HEDL, a state higher education database

When one examines Figure 52, which displays A/P employee growth on a percentage basis, three non-instructional areas are especially noticeable. Intercollegiate Athletics, Research Institutes/Centers, and Computing Support all had A/P percentage increases of over 100%.

Figure 52

Administrative/Professional Employees*
Percent Increase: FY77 to FY89

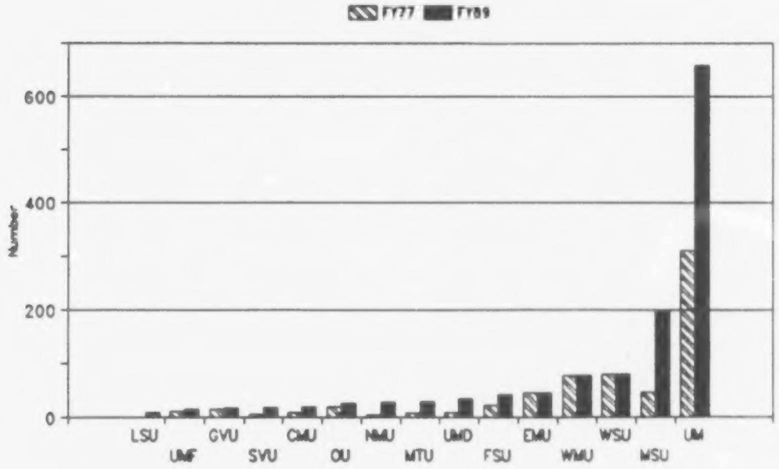


Data Source: HEIDI, a state higher education database

Five other non-instructional categories that had percentage increases exceeding 25% were Financial Aid Administration, Community Relations, Executive Management, General Administrative Services, and Academic Administration.

Figure 53

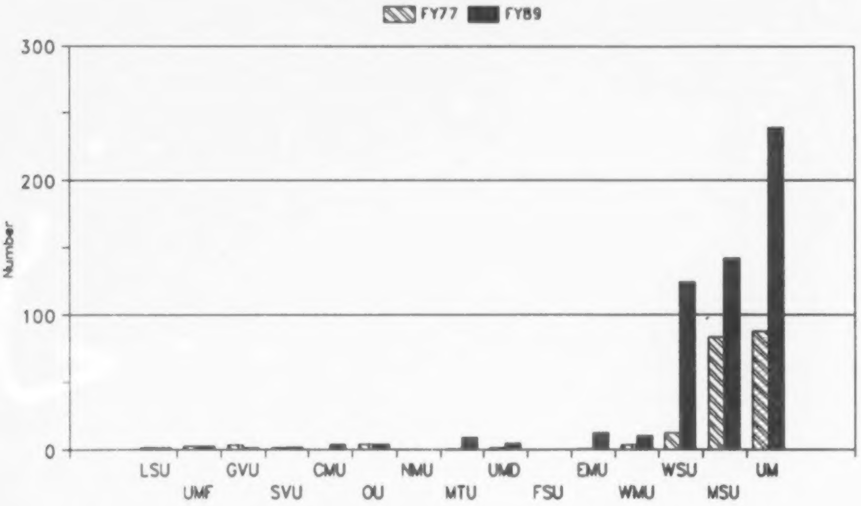
Administrative/Professional Employees:
General Fund Instruction



Data Source: HEIDI, a state higher education database

When one disaggregates A/P employment by university, one observes some differential patterns in Figures 53 (above) and 54. Large numerical increases in Instructional A/P's occurred at the University of Michigan-Ann Arbor and Michigan State University. Perhaps as those two universities increased demands on faculty to advance their research agendas and to increase grant procurement, A/Ps assumed some work assignments that typically faculty do (e.g., advising).

Figure 54
Administrative/Professional Employees:
General Fund Research



Data Source: HEIDI, a state higher education database

Large percentage increases in instructional A/P's are evident at most of the universities, except Wayne State, Western Michigan, and Grand Valley State Universities. Examination of Figure 54 also reveals that UM, MSU, and WSU hired large numbers of Research A/P's during this period. Western Michigan, Michigan Tech, and Eastern Michigan also increased the number of Research A/P's during this period.

In recent months there have been articles in the Chronicle of Higher Education discussing the large growth in academic- and institutional-support staffs throughout the nation (see especially March 28, 1990, issue). According to reporter Karen Grassmuck, for the period 1975-1985, staff changes at U.S. colleges and universities reflected the trend toward more executive, administrative, managerial, and other non-faculty professional employees.

Data from the U.S. Equal Employment Opportunity Commission reveals that the national growth in college and university administrative/professional staff during that decade exceeded 60%. Nationally, in the same period, the number of full-time equivalent (FTE) faculty members and full-time equivalent (FTE) service personnel grew by 5.9% and declined by 4.9%, respectively. As the charts in this report reveal, during much of the same period Michigan public universities had similar patterns.

Instructional A/P's grew in number by 95%. About one-sixth of the reported increase was due to the FY79 incorporation of Mental Health Unit employees into the University of Michigan-Ann Arbor Medicine program area in the HEIDI database. The remainder of the Instructional A/P increase primarily involved the academic program areas of engineering, the hard sciences, and the other health professions.

Some A/P employee growth can be attributed to the increased computerization of many instructional areas. Programmers, system analysts, data processors, and computing system managers are categories in which employment growth has likely occurred in engineering and other scientific/technical program areas at the universities. In the hard sciences, specialists involved with laboratory instructional activities may have also increased in number.

Without detailed analysis of personnel changes at each public university, the extent to which faculty have part-time A/P appointments and the extent to which technological changes occurring at universities have affected A/P employment growth in the instruction area is uncertain.

Considering the administrative/professional cadre as a whole, in FY77 there were 2.1 FTE faculty for every FTE administrative/professional. In FY89 the ratio had declined to 1.75 : 1.

Considering only Ranked faculty (those who have tenure or are in the tenure-granting stream), the ratio of FTE faculty to FTE A/Ps in FY77 was 1.79 to 1. In FY89 it had declined to 1.28 : 1.

It may be some administrative growth reflects operational needs related to increased research endeavors, to compliance with state and federal laws, and to the wider dispersal of student enrollment over the many hours of a day.

Yet, considering the modest enrollment changes that occurred in the twelve-year period of this study, the substantial surge in executive, management, and non-instructional administrative/professional employment seems to suggest opportunities for cost containment on the non-instructional side of university operations.

Given the enrollment trend shown in Figure 46 and the increased number of A/P's displayed in Figures 53 and 54, it appears that a self-review of university infrastructure is vital to increased productivity and cost containment. Universities elsewhere – including Stanford and Dartmouth – have begun to adopt plans to trim non-teaching staff as one means of controlling costs. Lehigh University has reduced its administrative costs by $1 million through elimination of positions and "push[ing] responsibilities out from the center of the administration" (Chronicle of Higher Education, May 9, 1990).

In addition, other colleges and universities nationwide are discussing academic-unit consolidation accompanied by cost reductions in administration and management.

In Michigan, the University of Michigan-Ann Arbor has issued a report by a task force on costs in higher education. It suggested examination of university operations to identify opportunities where the organizational structure could be improved for "more cost-effective decision-making."

The overall goal is a "change in attitude, a new way of looking at the decisions we make, that should pervade all units." The long-range purpose is both enhancement of quality and reduction of costs.

Some other Michigan universities are also beginning to examine the productivity of administrative units on their campuses. Expansion of such careful review of current operations to all public universities may result in cost containment measures that will maintain academic quality while mitigating the need for large tuition increases. Such review should be encouraged.

One factor that may account for some of the increased pressure on resident undergraduate tuition is the migration of undergraduate students into more costly programs.

To understand effects of this trend, assume that a campus of 100 students has 50 students enrolled in a program that had an Expenditure per Student Credit Hour ratio of twice the campus average. The other 50 students enrolled in the less costly program.

If one-half (25) of the students in the less-expensive program switched to the more-costly program and assuming no marginal-cost savings, the instructional expenditure would increase by 30%.

In this section of the report, an unsophisticated modeling of expenditure trends was used to find out if enrollment growth and enrollment shifts from less-expensive to more-expensive program areas may be causing some or all of the expenditure increases that apparently are driving up tuition rates.

Undergraduate program expenditures were the focus of attention, since public concern about tuition costs has centered on the affordability of undergraduate education.

First, for each program area in the HEIDI database, the ratio of Expenditures per Student Credit Hour was calculated for both FY77 and FY89. Then the FY77 figures were adjusted by the HEPI index to account for inflation. Marginal cost savings were ignored.

A comparison of the actual FY89 and adjusted FY77 figures revealed that, under the assumption of no enrollment shift from FY77 to FY89, the universities would have spent $57 million less for undergraduate instruction in FY89 than they actually spent. Table 1 below reports the actual and adjusted expenditures for each program area.

Secondly, the FY77 percentage distribution of undergraduate student credit hours among the 35 programs areas was identified. Application of those percentages to the sum of FY89 undergraduate student credit hours yielded a "hypothetical" distribution of FY89 enrollment according to FY77 patterns. Calculation of "modeled" undergraduate instruction expenditures showed that the slight enrollment increase in SCH

TABLE 1

Model A: No Enrollment Growth/No Shift Among Programs

UNDERGRADUATE PROGRAM	MODELED FY89 EXPENDITURES	ACTUAL FY89 EXPENDITURES
Agriculture & Natural Resources	$5,790,771	$6,112,231
Architecture & Envir. Design	1,470,612	1,296,486
Area Studies	390,244	490,040
Biological Sciences	22,566,239	22,004,632
Business & Management	26,424,206	42,991,895
Communications	4,088,982	13,405,044
Computer/Info Science	2,902,120	13,425,430
Education	43,879,648	36,267,607
Engineering	27,741,590	40,476,709
Fine/Applied Arts	31,118,447	30,953,296
Foreign Languages	16,278,453	17,320,304
Home Economics	5,601,845	6,086,410
Law	0	0
Letters	48,659,393	46,935,411
Library Science	305,143	139,675
Mathematics	25,162,248	28,561,451
Military Science	401,585	386,156
Physical Sciences	39,327,673	40,010,520
Psychology	13,942,786	16,126,540
Public Affairs	3,591,101	7,525,565
Social Sciences	53,989,054	54,950,998
Interdisciplinary Studies	14,307,831	9,479,811
Business & Commerce Tech	1,334,556	2,320,339
Data Processing Tech	0	84,707
Health & Paramed Tech	3,103,122	2,589,332
Mechanical & Engr. Tech	10,860,620	13,508,039
Natural Science Tech	1,556,949	2,290,334
Public Service Tech	0	378,345
Osteopathic Medicine	903,081	412,855
Medicine	1,872,480	3,197,536
Dentistry	0	0
Public Health	33,575	83,262
Pharmacy	2,216,442	3,656,199
Nursing	10,252,789	11,556,256
Veterinary Medicine	1,431,470	743,807
Other Health Professions	4,871,701	8,165,701
Optometry	0	0
INSTRUCTION TOTAL	$426,376,756	$483,932,923

TABLE 2
Model B: Enrollment Growth/No Shift Among Programs

UNDERGRADUATE PROGRAM	MODELED FY89 EXPENDITURES	ACTUAL FY89 EXPENDITURES
Agriculture & Natural Resources	$5,892,277	$6,112,231
Architecture & Envir. Design	1,496,390	1,296,486
Area Studies	397,084	490,040
Biological Sciences	22,961,804	22,004,632
Business & Management	26,887,397	42,991,895
Communications	4,160,657	13,405,044
Computer/Info Science	2,952,991	13,425,430
Education	44,648,816	36,267,607
Engineering	28,227,874	40,476,709
Fine/Applied Arts	31,663,923	30,953,296
Foreign Languages	16,563,799	17,320,304
Home Economics	5,700,040	6,086,410
Law	0	0
Letters	49,512,346	46,935,411
Library Science	310,492	139,675
Mathematics	25,603,319	28,561,451
Military Science	408,625	386,156
Physical Sciences	40,017,050	40,010,520
Psychology	14,187,190	16,126,540
Public Affairs	3,654,049	7,525,565
Social Sciences	54,935,431	54,950,998
Interdisciplinary Studies	14,558,634	9,479,811
Business & Commerce Tech	1,357,949	2,320,339
Data Processing Tech	0	84,707
Health & Paramed Tech	3,157,517	2,589,332
Mechanical & Engr. Tech	11,050,997	13,508,039
Natural Science Tech	1,584,240	2,290,334
Public Service Tech	0	378,345
Osteopathic Medicine	918,911	412,855
Medicine	1,905,303	3,197,536
Dentistry	0	0
Public Health	34,164	83,262
Pharmacy	2,255,294	3,656,199
Nursing	10,432,511	11,556,256
Veterinary Medicine	1,456,563	743,807
Other Health Professions	4,957,097	8,165,701
Optometry	0	0
INSTRUCTION TOTAL	$433,850,735	$483,932,923

TABLE 3
Model C: Enrollment Growth & Shift Among Programs

UNDERGRADUATE PROGRAM	MODELED FY89 EXPENDITURES	ACTUAL FY89 EXPENDITURES
Agriculture & Natural Resources	$3,152,868	$6,112,231
Architecture & Envir. Design	1,327,727	1,296,486
Area Studies	494,042	490,040
Biological Sciences	16,026,348	22,004,632
Business & Management	32,012,366	42,991,895
Communications	12,495,646	13,405,044
Computer/Info Science	10,953,731	13,425,430
Education	31,172,152	36,267,607
Engineering	32,956,269	40,476,709
Fine/Applied Arts	30,302,695	30,953,296
Foreign Languages	19,976,874	17,320,304
Home Economics	6,104,891	6,086,410
Law	0	0
Letters	49,766,845	46,935,411
Library Science	145,390	139,675
Mathematics	28,306,326	28,561,451
Military Science	622,578	386,156
Physical Sciences	34,499,547	40,010,520
Psychology	13,820,226	16,126,540
Public Affairs	6,278,576	7,525,565
Social Sciences	51,535,516	54,950,998
Interdisciplinary Studies	9,610,413	9,479,811
Business & Commerce Tech	2,413,878	2,320,339
Data Processing Tech	0	84,707
Health & Paramed Tech	1,779,169	2,589,332
Mechanical & Engr. Tech	9,471,520	13,508,039
Natural Science Tech	3,055,030	2,290,334
Public Service Tech	0	378,345
Osteopathic Medicine	564,301	412,855
Medicine	883,233	3,197,536
Dentistry	0	0
Public Health	780	83,262
Pharmacy	1,743,006	3,656,199
Nursing	11,531,877	11,556,256
Veterinary Medicine	672,672	743,807
Other Health Professions	7,121,421	8,165,701
Optometry	0	0
INSTRUCTION TOTAL	$430,802,913	$483,932,923

from FY77 to FY89 more closely matched actual expenditures. Table 2 presents the results of this phase of modeling.

Third, the FY77 expenditures per SCH were converted to 1989 dollars and multiplied by the actual FY89 distribution of enrollment. The aggregate of the product of these figures was compared to the actual FY89 costs. The enrollment shift – primarily into communications, computing/information science, and business/management – resulted in actual spending exceeding modeled expenditures by $53 million. Table 3 displays the figures for this aspect of modeling.

One interesting comparison among the three tables is the increase in modeled Total Instruction expenditures from Table 1 to Table 2 and then a decrease from Table 2 to Table 3. Apparently, the enrollment shift among programs and the overall enrollment growth has been toward the less-expensive areas.

Another fascinating area for further exploration is the difference in modeled expenditures between Table 2 and Table 3. For example, there were large differences in two-thirds of the program areas. One immediate explanation is enrollment increases/declines, but other factors may also be influential.

In summary, it is evident that the universities have spent more on undergraduate instruction than any of the three modelling efforts described above could identify. The difference between the modeled expenditures in Table 3 and the actual costs may be considered expenditures for "quality" improvement or expenditures that may be amenable to cost containment. More sophisticated efforts in modeling may lead to some definitive answers.

CONCLUSIONS

As noted in an earlier section of this report, the tuition issue is multidimensional. Consequently, long-term solutions are also likely to be composed of multidimensional corrective actions.

During the period FY77 through FY89, the public universities, as an aggregate, received state appropriations exceeding inflationary increases as measured by the Higher Education Price Index (HEPI). The absolute decline in appropriations during the FY81-FY82 "depression" caused the universities to substantially increase undergraduate tuition rates and to hold expenditure increases below HEPI levels.

However, since FY84, General Fund (GF) Non-Instructional expenditures have increased faster than both GF Instructional expenditures and HEPI. Since FY87, GF Instructional expenditures have even exceeded HEPI. What might account for this expenditure growth beyond HEPI?

After a long period when faculty compensation expenditures were below HEPI, such expenditures have increased each year since FY83 and finally caught up to HEPI in FY89.

Some of these compensation increases can be explained by the increased revenues attributable to enrollment increases which public universities have experienced since FY83. Universities hired additional faculty to accommodate the enrollment growth, but student headcount per FTE faculty has also been increasing. This is an indication that public universities have generally been able to minimize faculty marginal costs related to increased enrollment.

Some of the compensation increases can also be explained by the migration of undergraduate students from less-expensive to more-expensive programs whose annual cost increases – both faculty compensation and other expenses – have been above HEPI.

Yet, as Figure 28 revealed, faculty compensation as a percentage of GF expenditures has been declining. The ratio of non-faculty compensation to GF expenditures has increased since FY77 at eight of the public universities. And Figure 24 indicated that non-instructional spending has been accelerating and may be responsible for some of the large tuition increases levied in recent years.

In their presentation to the Senate Select Committee, Robert Zemsky and Myrna Whittington of the Pew Higher Education Research Program recommended that the state and the universities look at redundancy of programs, purposeful pruning in both instructional and non-instructional areas, and price constraint. They suggested to the Committee that the Legislature develop a trust fund that the universities could draw upon to the extent that they restrained cost at their campuses.

In a recent monograph, Zemsky also called on institutions to "set revenues first" – Paradigm B – and then carry out a plan of "program reduction and administrative reorganization." As did Grassmuck, Zemsky has identified the growth of an administrative lattice, "expansion of administrative entrepreneurship," and growth of an "academic ratchet" that has diminished a faculty member's linkage to his/her university (Zemsky, June, 1990). He concluded with a call for universities to become "simpler organizations" and "more focused."

Lawrence Sherr, a professor of business administration and a national consultant on quality improvement, recommended that universities examine internal processes that add cost and lower quality. He suggested that universities explore ways of systematizing and streamlining operations – in a sense, probing the administrative lattice and identifying opportunities for cost containment. Pushing decision-making down to lower levels in the academic organization would be one means of tightening management and reducing expenditures. (Sherr, 1990).

Given the projected economic and income trends for Michigan in the next few years, it seems imperative that university leaders redouble their efforts to streamline their institutions and apply cost containment measures, especially on the non-instructional side of operations. Echoing Sherr, Donald Kennedy, Stanford president said, "The predominant challenge is ... to reduce our size and our expenditures ... The present exercise has been aimed at administrative and support functions ... because these are the areas ... where we see the greatest opportunities for sensible reduction" (Kennedy, 1990).

An earlier section of this report showed that employment of Administrative/Professionals in Michigan public universities had grown over 33% in a period when Fiscal Year Equated Student enrollment declined 5% and Ranked Faculty employment declined nearly 5%.

During the same period constant-dollar Instructional Expenditures grew 12%, while many sub-categories of Non-Instructional expenditures increased at higher rates. As shown in Figures 28 and 46, it appears that university cost containment efforts have been directed toward and have been most successful in restraining instructional – primarily faculty compensation – costs.

While further cost containment on the instructional side may be possible – through "more flexible and individualized" faculty workloads, as the University of Michigan-Ann Arbor report suggests – and may lead to some re-direction of faculty effort, cost containment initiatives on the non-faculty side of Instruction and on the non-instructional side of General Fund operations are likely to be fruitful actions as the universities seek to contribute to a lessening of family financial burden in the 1990s. Paradigm B should be the model for expenditure and tuition planning.

The second conclusion involves state appropriations. Though the Legislature has appropriated funds slightly above HEPI for the period, qualitative improvements at the universities seem to have been financed through increased student tuition. It is evident, as Arthur Hauptman mentioned in his monograph and Robert Zemsky described to the Senate Select Committee, that state appropriations is the "driver in setting tuition costs." Figures 11 and 15 have shown that appropriations and tuition revenues tend to function in an inverse relationship. When the state economy was strong and appropriations to higher education increased at about or above HEPI, then tuition increases tended to be minimized.

In the late 1960s, state appropriations accounted for nearly 70% of total GF operating costs for Michigan's public universities. As Figure 14 reported, the average in FY89 was slightly under 60%, with eight universities – including the two largest – below that level. The burden for payment of college costs has obviously shifted to the student and to his/her family. Kent Halstead asserted that this particular shift was very evident in Michigan.

Some may argue that the burden should shift to the student, since college graduates tend to derive substantially-higher lifetime earnings than do high school graduates. Others insist that the state should provide more resources so that public university education does not produce "elitist institutions whose remaining enrollment will be from relatively small community segments, those with personal financial resources . . ." (Faverman, 1984).

In the mid-1970's the Carnegie Commission on Higher Education suggested that it is reasonable for the student and his/her family to bear one-third of the cost of college education. In the aggregate of Michigan's public universities, tuition revenue as a portion of total GF revenue today exceeds 33% and is trending upward. This contrasts with earlier periods. In the late 1960's in Michigan, tuition and fees accounted for 21% of GF revenue. In the late 1970's, they comprised 28% of GF revenue.

In order to reduce the burden on a student and his/her family, there appears a need for additional non-family resources (primarily state appropriations) devoted to public higher education, further cost containment of university expenditures to restrain the need for large tuition increases, or, more likely, both initiatives.

To turn the tuition-to-appropriation ratio trend downward, additional state funding – above "normal" appropriations – seems necessary. These additional state funds would transfer some of the burden of quality improvement from the student and his/her family to the state.

The third conclusion also involves state appropriations. One means of allocating additional state monies involves distribution of some state funding on the basis of university tuition revenue derived from resident undergraduates. Most universities receive about 60% of their General Fund monies from state appropriations. If the Legislature raises the previous year's base by 3%, then under this proposal it would also allocate to each university 3% of the university's resident undergraduate tuition revenue for the previous year [e.g., in FY89, that hypothetical additional appropriations would have been $10 million]. The extra funds could be dedicated to tuition restraint.

Instead of raising only the base by X%, the Executive Office and the respective legislative committees on higher education appropriations could apply extra funds at X% times the SUM of the previous year's university appropriations AND the previous year's undergraduate resident tuition revenue.

This proposal has a historical antecedent. For FY85, the Legislature's appropriations committees applied an inflation factor to the sum of the base appropriations and ALL tuition revenue.

Since all universities receive less than 100% of their General Fund operational revenue from state appropriations, the current practice of applying an "inflation" factor to only a portion of a university's General Fund revenue stream tends to lead to increases greater than inflation for the tuition side of revenue. This forces the tuition rate higher than would be the case if the inflation factor applied to some or all of a university's tuition revenue.

By applying an inflation factor to resident undergraduate tuition revenue, the Executive Office and the legislature would be lessening the burden for Michigan resident undergraduates. Revenue generated by non-resident students would not have an "inflation factor" applied, since it is assumed that the universities are charging non-residents tuition at a rate close to the full cost of instruction.

The fourth conclusion relates to tuition rates at the different levels of education. Despite the recognizable difference in instructional costs between upper- and lower-division [noted nearly a quarter-century ago in a 1966/67 study at the University of Michigan-Ann Arbor], not all of Michigan's public universities have adopted differential tuition rates between lower- and upper-division instruction. It seems reasonable to suggest that those nine universities that have not adopted differential tuition rates consider such action.

At least two of the universities that currently have differential tuition rates at the lower- and upper-division levels also charge students in selected programs (usually Engineering and Business/Management) additional fees for enrollment in these more-expensive undergraduate programs. Some have suggested that tuition rates should be exclusively program-dependent, i.e., a more-expensive program should have a higher tuition rate for its courses than a less-expensive program. While such a concept may seem reasonable, implementation could create problems as students drop and add courses and switch majors. Furthermore, calculation of total costs for individual programs may not be that easy. Hence, such an approach is not recommended at this time.

Tuition-rate restraint at the lower-division level would possibly enable more students to explore the challenges of college without incurring a substantial loan obligation. High tuition rates may intimidate resident low-income students and convince them that college is not for them.

By having a lower rate for the first two years of undergraduate education, the burden on new students and their families may be lessened. Lower rates at the freshman and sophomore level may even encourage additional enrollment.

Students who have progressed to the junior and senior levels are more likely to graduate and to reap the substantial lifetime financial reward that college graduation seems to bestow. "The value of a college degree to the average American student is roughly $400,000." (Honig, 1990). And the estimated lifetime earnings differential between college graduation and high school graduation seems to be growing. Thus, higher rates at the upper-division level of undergraduate school seem appropriate from both a instructional-cost and policy perspective.

For the universities currently using tiered tuition at the undergraduate level, the differential between lower- and upper-division standing in FY89 was about 10%. However, the difference in instructional expenditure per SCH at the two levels is considerably larger. An increase in the differential between upper- and lower-divisions (across the entire university rather than merely in selected program areas) may be appropriate and should be considered.

The fifth conclusion is that the original Investment Needs Model that was used in FY77 to FY80 should be re-examined and considered for use in determining state appropriations. From Figures 15 and 24 it is evident that "harmony" existed in terms of state appropriations, tuition revenue, instructional and non-instructional expenditures for that same period. Then after the major recession of FY81-FY82, disharmony among those four elements seems to be the pattern. A review of the original Investment Needs Model may provide guidance for the 1990's.

Another conclusion relates to formulation of a state-level tuition policy. Because of the different revenue patterns of the various universities, careful crafting of a tuition policy is necessary, lest unintended and differential impacts on the various universities occur. An obvious factor to consider is the percentage of total tuition revenue generated by resident undergraduates. As displayed in Figure 20, the range in FY89 was 24% to 90%. Yet, the expectation that a uniform maximum allowable percentage increase for resident undergraduate tuition at all universities would have a similar impact on operations seems to ignore the current range of other revenue sources available to certain universities. Different tuition rate increases may be very appropriate given the varied revenue mix among the fifteen public universities.

Sharing the responsibility for increasing the affordability of public higher education between the universities and the Legislature – the former responsible for reducing costs and the latter for increasing state support for higher education – would further strengthen the partnership that has begun to develop between the campuses and the Legislative and Executive branches of government.

The final conclusions drawn from this study relate to the HEIDI database. An investigation of university revenue and expenditures is dependent upon the quality of the data analyzed. The HEIDI database had only a few identifiable weaknesses in terms of inaccurate data. Fortunately, the higher education analyst in the Michigan Department of Management and Budget, manager of the database, could draw on long-term personal knowldege of the database to point out data anomalies. Without that assistance, a researcher would likely recognize a datum problem but not know what may have caused it. Development of a systematic record of data anomalies would assist persons using the database.

Another useful action would be review of current HEIDI database categories to determine which are least useful and what currently-uncollected data may be more appropriate to include in a statewide database in future years. Positive outcomes of such a review could be a more useful and utilized database as well as a possible reduction in the state-reporting workload of campus institutional research and budget offices.

Often, comparisons are made among the public universities concerning state appropriations per Fiscal Year Equated Students. Since some universities offer professional graduate education and engage in intensive research endeavors at the graduate level, such comparisons among all universities are not very meaningful. It may be appropriate for the legislature to consider categorization of Professional Education (i.e., medicine, law, dentistry, etc.) and Research appropriations separately from undergraduate and non-professional graduate education support in the annual higher education funding bill. Currently, two distinctive programs -- the Agricultural Experiment Station and the Cooperative Extension Service -- appear as separate line items in the budget bill. The proposed categorization may lead to more meaningful interstate and intrastate comparisons of instructional programs. It may also affect the data included in the HEIDI database.

In summary, the purpose of this study was identification of the historical trend and current status of General Fund revenue and expenditures of Michigan's public universities. Historical data were examined to identify trends and to provide a profile of Michigan's universities as they exist and operate today. The need for additional state resources to restrain resident tuition rate increases and to improve the quality of undergraduate education was the first major conclusion of this study. And the other major conclusion was that the public universities in Michigan need to further implement cost containment measures, especially on the non-instructional side of university operations, to make undergraduate education more affordable for Michigan residents. The issues of affordability and excellence are multi-dimensional; the resolution will, likewise, require multi-dimensional action.

APPENDIX A

List of Consultants Who Made Presentations to the Senate Select Committee on Tuition Policy

- David Adamany (President, Wayne State University, Detroit, MI)
- Carol Frances (Carol Frances & Associates, Warrenton, VA)
- Kent Halstead (Research Associates of Washington, D.C.)
- Diane Smolen (Michigan Department of Education)
- Richard R. Spies (Vice President for Finance, Princeton University)
- Marna Whittington (Pew Higher Education Research Program, University of Pennsylvania)
- Robert Zemsky (Pew Higher Education Research Program, University of Pennsylvania)

Glossary of Important Terms

FACULTY COMPENSATION: Faculty salaries plus fringe benefits.

FTE FACULTY: A Full-Time Equivalent (FTE) faculty member working full time for an entire academic year.

FYES: Fiscal Year Equated Student [the equivalent of 31 semester hours for undergraduate students; 24 semester hours for Grad I (master's degree students); 16 for Grad II (doctoral students).

GF GROSS SQUARE FEET: Space in all institutional facilities less self-supporting facilities as defined in the Michigan Capital Outlay Manual.

HEIDI: Higher Education Institutional Data Inventory, a State of Michigan higher education database.

LOWER-DIVISION: Level of enrollment by students who have completed 55 or fewer semester credit hours toward a certificate, associate or baccalaureate degree. Students who have not earned a degree and who are not enrolled in a degree program are classified as lower-division students.

MARGINAL COSTS: The amount that the production of an additional unit (e.g., one additional Student Credit Hour) adds to the total cost of production.

PARADIGM: A pattern or model that is useful in explaining a complex process or idea.

RANKED FACULTY: All faculty classified as professor, associate professor, assistant professor, or others in the tenure track. HEIDI database includes department chairpersons among Ranked Faculty.

SCH: Student Credit Hour [semester basis].

STATE APPROPRIATIONS: Total state funding recorded as revenue in the institution's fiscal year.

TOTAL FACULTY: Sum of ranked, unranked faculty, and graduate teaching assistants in instructional programs.

TUITION AND FEES: Actual amount of tuition and fees paid by a full-time student for an academic year. Includes all mandatory fees paid by on-campus, degree-seeking students.

UPPER-DIVISION: Level of enrollment by students who have completed 56 or more semester credit hours toward a baccalaureate degree, who are working on a second baccalaureate degree, or who are post-baccalaureate students not in a degree program.

List of National Association of State Universities and Land-Grant Colleges for Figure 17

Auburn, Alabama, Alaska, Arkansas, UC-Berkeley, UCLA, UC-San Diego, Connecticut, Delaware, Florida, Florida State, Georgia Tech, Georgia, Hawaii, Idaho, Indiana, Purdue, Iowa, Iowa State, Kansas, Kentucky, Maine, Maryland- College Park, Massachusetts - Amherst, MICHIGAN STATE, MICHIGAN, Minnesota, Mississippi State, Mississippi, Missouri - Columbia, Montata State, Nebraska - Lincoln, Nevada, New Hampshire, Rutgers, New Mexico, New Mexico State, CUNY - City College, SUNY - Buffalo, SUNY - Stony Brook, North Carolina, North Carolina State, North Dakota, Ohio State, Cincinnati, Oklaahoma, Oregon, Oregon State, Penn State, Pittsburgh, Rhode Island, South Carolina, South Dakota, Tennessee, Texas A&M, Utah, Virginia, Virginia Polytechnic Institute, West Virginia, Wisconsin - Madison, Wyoming

Description of HEIDI Database Categories:

INSTRUCTION: Expenditures for all activities that are part of a university's instructional program.

RESEARCH: Funds expended for activities specifically organized to produce research outcomes.

PUBLIC SERVICE: Expenditures budgeted for activities established primarily to provide noninstructional services beneficial to groups external to the university.

ACADEMIC SUPPORT: Funds expended for activities that provide support services that are integral to the operation of a university's three primary programs of instruction, research, and public service.

STUDENT SERVICES: Expenditures for admissions, registrar activities, and other activities whose primary purpose is student emotional and physical well-being and intellectual, cultural, and social development outside the context of the instructional program.

INSTITUTIONAL SUPPORT: Funds expended for activities whose primary purpose is operational support for the day-to-day functioning of the university, excluding physical plant operation expenditures.

PLANT OPERATION & MAINTENANCE: All expenditures for the operation and maintenance of physical plant, including campus grounds maintenance, fire protection, and similar items.

FINANCIAL AID: Funds given to students in the form of outright grants and trainee stipends (excluding teaching assistantships).

AUXILIARY ACTIVITIES: Expenditures for services to students, faculty, or staff that normally involve a fee directly related to the cost of the service provided.

MANDATORY TRANSFERS: Funds expended for debt retirement of the educational plant, auxiliary enterprise facilities, required Loan Fund matching grants, and other transfers stipulated in financing arrangements.

Source: Manual for Uniform Financial Reporting, President's Council of State Colleges and Universities of Michigan, 1977.

Senate Resolution No. 191 of 1989

A resolution creating a select committee on higher education to study tuition policy at Michigan colleges and universities.

Whereas, The future quality and accessibility of higher education in Michigan are a concern of the Michigan Senate; and

Whereas The Legislature appropriates to Michigan colleges and universities state dollars that supplement tuition revenues. Limiting state appropriations results in more reliance on tuition revenues to operate Michigan's colleges and universities; and

Whereas, The average tuition at Michigan's public universities has increased significantly over the last ten years, making higher education an expensive commodity; and

Whereas, In order to examine current tuition policy at Michigan's higher education institutions and to make recommendations regarding future tuition policy, it is important for the Michigan Senate to form a committee to study tuition policy; now therefore, be it

Resolved by the Senate, That there be created a select committee to consist of seven members of the Senate, to function during the 1989 Regular Session of the Legislature, to study tuition policy at Michigan colleges and universities. The select committee shall report on its findings and recommendations in writing to the Legislature; and be it further

Resolved, That the committee shall consist of four majority and three minority members of the Senate to be appointed by the majority leader of the Senate; and be it further

Resolved, That the committee may call upon the Legislative Service Bureau, subject to the approval of the Legislative Council, for such services and assistance as it deems necessary; and be it further

Resolved, That the members of the committee shall serve without compensation, but shall be entitled to actual and necessary travel and other expenses incurred in the performance of official duties, the expenses of the members of the Senate to be paid, subject to the approval procedures of the Senate, from the appropriations to the Senate.

APPENDIX F

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Section III

Other Documents Presented to the Senate Select Committee

David Adamany

David Adamany, president of Wayne State University in Detroit, focused his remarks to the Senate Select Committee on the tuition-setting process at Wayne State. He described the various factors that must be considered in determining the revenue needs of the university.

Outline of Remarks to the Senate Committee on Tuition

David Adamany, President
Wayne State University

March 27, 1990

I appreciate the opportunity to appear before this committee.

The issue of university tuition has recently been very controversial nationally and in Michigan.

I understand from Senator Sederburg that my role as a witness is to discuss with you how a university makes its budget, and how the budget-making process has an impact on tuition levels.

Let me begin by simply stating that Wayne State University is very deeply concerned about tuition for students. We believe we have an excellent record in restraining tuition in recent years. Overall, our tuition rates have increased by about 28 percent over the past seven years. The average increase among the remaining 14 state universities was about 52 percent.

Notwithstanding our tuition restraint over these years, Wayne State still has the third highest tuition in Michigan and the 19th highest tuition among the nation's 71 public research universities.

We therefore remain very concerned about tuition levels, and we try to budget conservatively to hold tuition increases to reasonable levels.

I hope my discussion today will give you some idea of the constraints that we face in budgeting. I will suggest that we build our budget by looking at several different categories. Some of these we can control effectively; others we can scarcely control at all.

1. Legally fixed budgetary commitments

   Debt retirement of bonds.

   Other debt retirement.

   Early retirement commitments for faculty. Note here the emerging requirement for accounting to fund on an accrual basis, not only for retirement but for accumulated vacation, illness days, etc.

2. Mandated cost increases.

   Increases in utilities rates, as permitted by the PSC.

Increases in state or federal regulatory costs, such as an increase in pension costs resulting from a new federal law mandating a reduction in the gap between pension contributions for highly paid and nonhighly paid employees. Increases in social security taxes and in minimum wage rates for student assistants are similar mandatory costs. Stamps

3. Costs mandated by collective bargaining.

Wages. Our salary increases have generally kept up with the market. In 1988 we introduced a new classification system for professional employees that was pegged at about 96 percent of the average of the private employer salaries for similar positions in our area. Our faculty salaries are the second highest in Michigan and, except for the rank of full professor, rank very well nationally. We lose very few faculty members to competing offers--less than 2 percent per year.

Fringe benefits. Here health care costs are our largest obligation, and they continue to rise. As might be expected, collective bargaining organizations resist changes in fringe benefit programs, even those that might reduce costs by achieving closer scrutiny of expenditures--such as closer monitoring and second opinions in health care use.

4. Formula budgeting of some expenditure categories.

We attempt to budget some aspects of our internal operations by formulas that stimulate reallocation of funds more or less automatically.

Faculty lines and instructional supplies are budgeted according to enrollment in the various colleges, so that we automatically shift funds to follow student enrollments.

We automatically share 43.5 percent of indirect cost recovery on grants with colleges, departments, and principal investigators who bring in grants. This allows them to meet research overhead, and it provides a stimulus for additional research.

Recently we began allocating an additional 10 percent of indirect cost to support services--such as grant accounting and disbursements--that are heavily impacted by growth in research funds.

We automatically match King-Chavez-Parks program funds, as is required by the state budget. I place this item in the formula category, rather than in the mandated cost category, because the University would have the discretion not to participate in the program. But from our perspective, nonparticipation in meeting the urgent need to strengthen minority enrollments and education would be unthinkable.

Finally, we budget some portion of institutional financial aid on a formula basis. We automatically increase our financial aid programs by the same amount we increase tuition. We spend about $9 million annually for financial aid. Each 1 percent increase in tuition costs us an additional $90,000 on the expenditure side in order to maintain the current value of financial aid programs.

5. Long term asset preservation costs.

Generally we attempt to maintain the University's long term assets by funding their preservation and renewal. The most obvious case is physical plant. Here Wayne State attempts to spend between 2 percent and 3.3 percent annually for repairs, maintenance, renovation, and replacement. The 2 percent to 3.3 percent range is based on accounting principles about the probable life of facilities. Unfortunately, we have had difficulty maintaining expenditures at this level. That is why we have deferred maintenance in the range of $44 million. Nonetheless, in the last decade, WSU has been ahead of most other Michigan universities in the percent of its current plant value that it spends for repairs, maintenance, renovation, and replacement.

We have done much less well on equipment maintenance. Repair and maintenance contracts generally cost about 15 percent per year of purchase price. While we spend a fair bit on new equipment each year, in order to keep up with the advancing use of technology in all instructional fields, we have not budgeted 15 percent annually for maintenance of existing equipment.

6. Inflationary costs.

Operating supplies.

Libraries. This has been an area of extremely high inflation in recent years--generally 2 to 3 times the CPI. This year, however, there has been a moderating of the inflation rate. Nonetheless, we are budgeting about 8 percent for library inflation in a year when the CPI will be about 4.5 to 5 percent.

Equipment purchases, including computers.

7. Discretionary areas of the budget.

Faculty recruitment funds. We have a faculty recruitment fund to allow us to "top up" existing budgeted lines in order to compete for able faculty. This is becoming an increasing problem, as 450,000 to 500,000 faculty nationwide are projected to retire between now and the early part of the 21st century. Only about 30,000 to 35,000 doctorally qualified people are entering academic life each year, so there is a shortfall of 10,000 or more new faculty to fill in behind retirements. Our budget this year was $300,000 for this purpose; and it was inadequate for the first time since we began that program.

Minority faculty recruitment funds. Once again, we are exhausting our funds for this purpose for the first time in recent years.

Start-up funding for faculty for laboratories or computers. These funds generally come from the indirect cost recovery and discretionary funds of deans, the vice president for research, and the provost. But the magnitude of these start-up costs is rising so rapidly that some budgetary recognition will be necessary.

New programs: PRRs.

New programs: enhancements of existing programs by adding to them beyond what they need to meet changing enrollments.

Finally, I would like to mention some things we are attempting to do and some things we have not done in order to be more effective in the use of our budgeted funds.

1. We engage in position control, so that funds cannot be shifted from other purposes to personnel.

2. We control the movement of funds across functional lines and also across budgeted Board of Governors' lines in order to keep the institution in balance.

3. We provide incentives for good management by allowing the carry-forward by academic and operating units of 75 percent of their year-end balances. This tends to avoid last quarter spend-outs, and many units have conserved money for facilities improvements, major equipment installations, etc.

4. We provide incentives for meeting student instructional needs by sharing additional tuition revenue with schools and colleges when they enroll more students than they were budgeted to teach.

5. Similarly, we encourage schools and colleges to offer summer session programs for students by sharing with them the summer session tuition that is in excess of the costs of offering summer programs.

6. We encourage academic units to raise funds from their alumni and other private sources. We allow them to expend these funds for educational purposes in a discretionary way; and we do not count their private funds as a deduction from their budgeted funds. This not only encourages fund raising, but it allows academic units to achieve a measure of excellence with the use of private funds.

7. We are attempting to reduce our utility costs by changing over some of our buildings to a gas/steam alternative system. We are generally making conversions where there is a 3.5 to 4 year payback and where we do not have to undertake major construction activity on the campus to reach gas mains.

   Here Wayne State's budgetary costs are higher than some other institutions where the state has invested in power plants or other utility savings programs. We are attempting to do this on our own, and it is a slow process.

8. We have gradually been installing new operating systems that achieve some efficiencies in the quality of service and in future personnel needs. These have included a new Financial Accounting System, Human Resources System, and mail registration system. We are now installing a whole new student records and information system.

One thing we have not done, and which we probably won't do, is to reduce our personnel budget by a certain percent to recognize turnover. This is the concept of "salary savings" resulting from temporarily vacant positions. We don't do this because employment turnover is highly unpredictable in a cyclical economy, and we are reluctant to be caught short in the personnel budget if the economy slows and there is a dramatic reduction in personnel turnover.

I hope these remarks provide some indication of how we make the budget at Wayne State.

What I hope it emphasizes is that many of our costs are fixed. As to the costs we can control, we use a variety of incentives and controls to try to achieve as much educational service and research as we can with the funds provided.

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Carol Frances

Carol Frances, consultant on national trends, presented an overview of factors affecting tuition revenues and described higher education personnel compensation trends. She also discussed the relationship between public college tuition and state appropriations, showed the changing composition of federal student aid, and identified possible impacts of high tuition on accessibility.

NATIONAL TRENDS TO CONSIDER IN DEVELOPING TUITION POLICY FOR MICHIGAN COLLEGES AND UNIVERSITIES

Presentation to the
Senate Select Committee
on Higher Education

by
Carol Frances

Carol Frances + Associates
Warrenton, Virginia 22186

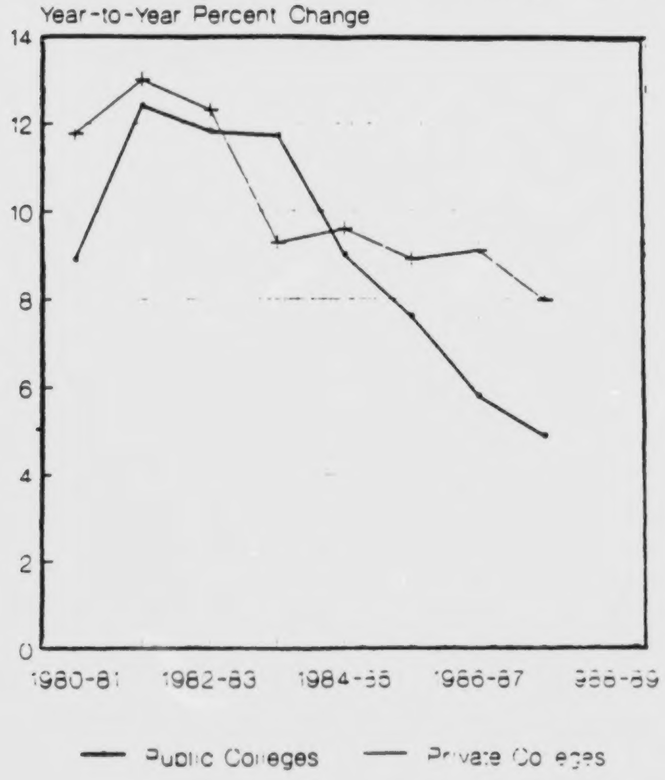
703-347-2365

March 1, 1990

PITFALLS IN COMPARING RATES OF INCREASE IN TUITION AND IN THE CPI:

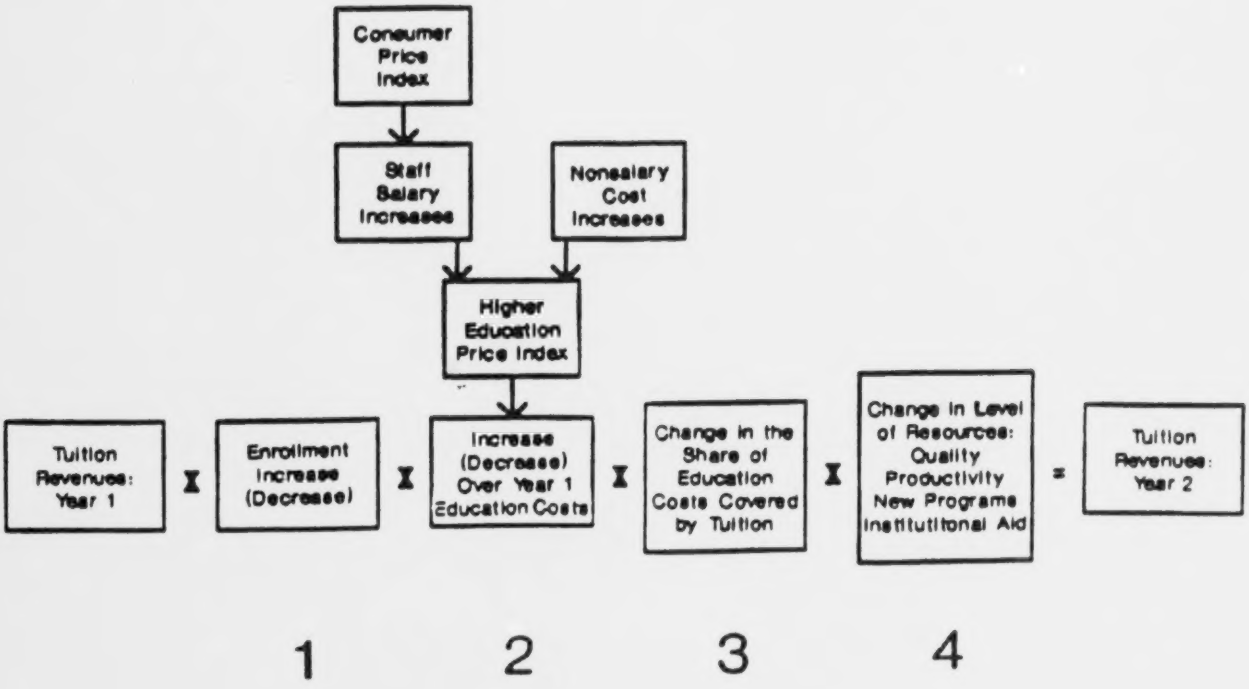
- TUITION IS NOT A "PRICE" LIKE THOSE FOR OTHER CONSUMER PRODUCT
- TUITION IS AFFECTED NOT ONLY BY COSTS BUT BY THE SHARE OF COSTS BORNE BY STUDENTS
- DIFFERENCES IN HOW INCREASES IN PRODUCTIVITY ARE REFLECTED
- DIFFERENCES IN THE TREATMENT OF DISCOUNTS
- DIFFERENCES IN ABILITY TO IMPORT LOWER-PRICED SUBSTITUTES

Trends in the Rate of Increase in College Tuition



Source: National Center for Education Statistics (NCES)

FACTORS THAT AFFECT TUITION REVENUES



Consumer Price Index

Staff Salary Increases

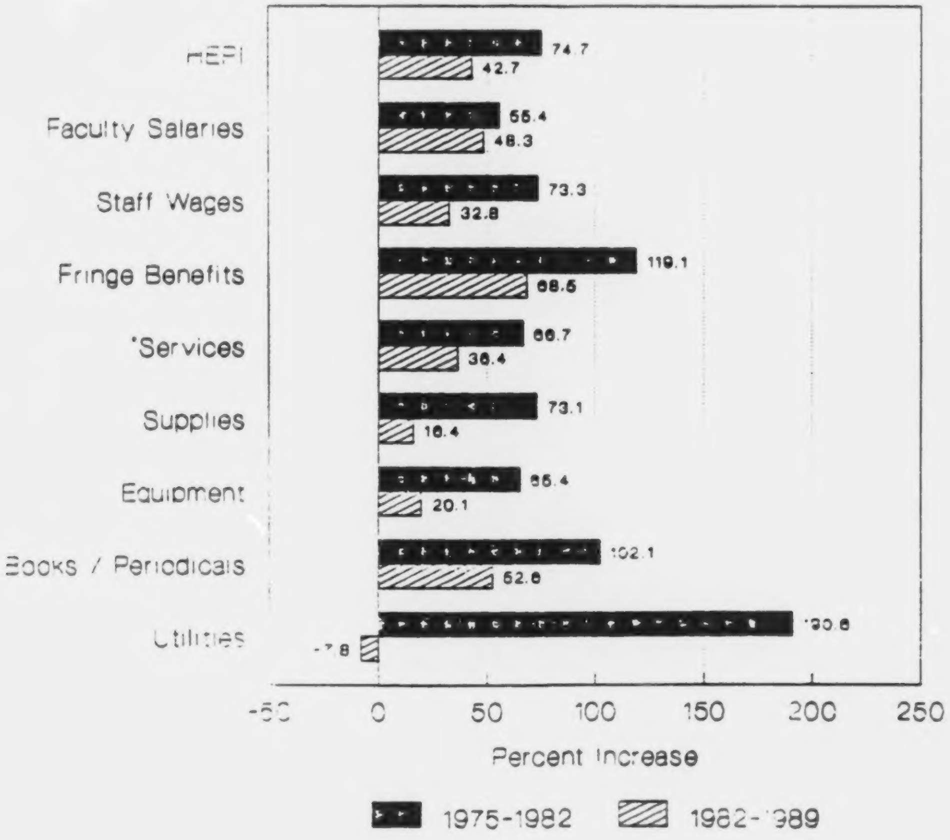
Nonsalary Cost Increases

Higher Education Price Index

Tuition Revenues: Year 1 x Enrollment Increase (Decrease) x Increase (Decrease) Over Year 1 Education Costs x Change in the Share of Education Costs Covered by Tuition x Change in Level of Resources: Quality Productivity New Programs Institutional Aid = Tuition Revenues: Year 2

1 2 3 4

TRENDS IN HIGHER EDUCATION COSTS BY COMPONENT

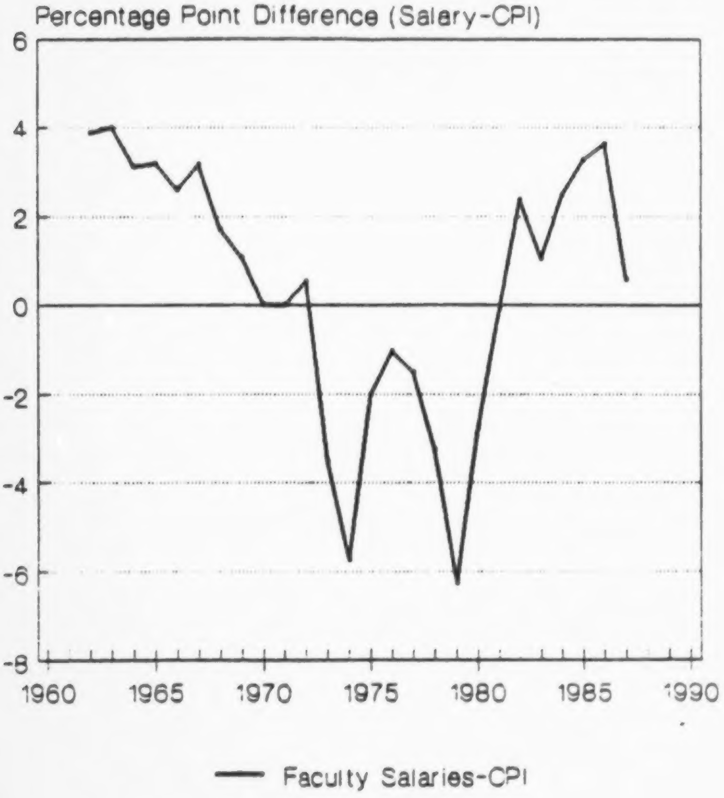


Source: Research Associates.

WHY TUITION KEEPS GOING UP:

- COST PRESSURES
  - SHIFTS TO HIGH COST MAJORS
  - IMPACT OF NEW TECHNOLOGY
  - ADMINISTRATIVE COSTS
  - SOCIALLY-MANDATED PROGRAMS
  - SOCIAL SECURITY TAXES
  - COST OF BORROWING
- REVENUE SHORTFALLS
  - STATE APPROPRIATIONS
  - FEDERAL STUDENT AID
- SPENDING PRESSURES
  - QUANTITY
  - QUALITY
  - INSTITUTIONALLY FUNDED STUDENT AID

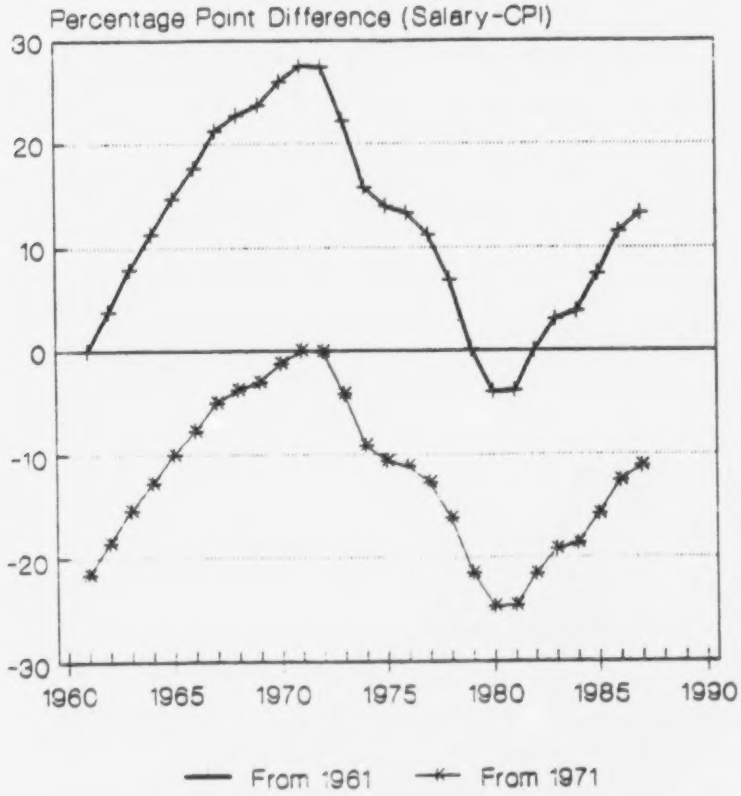
FACULTY SALARIES - CPI
Difference in Annual Rates of Change-
Annual Real Income Gains / Losses



CFA calculated from BLS and AAUP data.

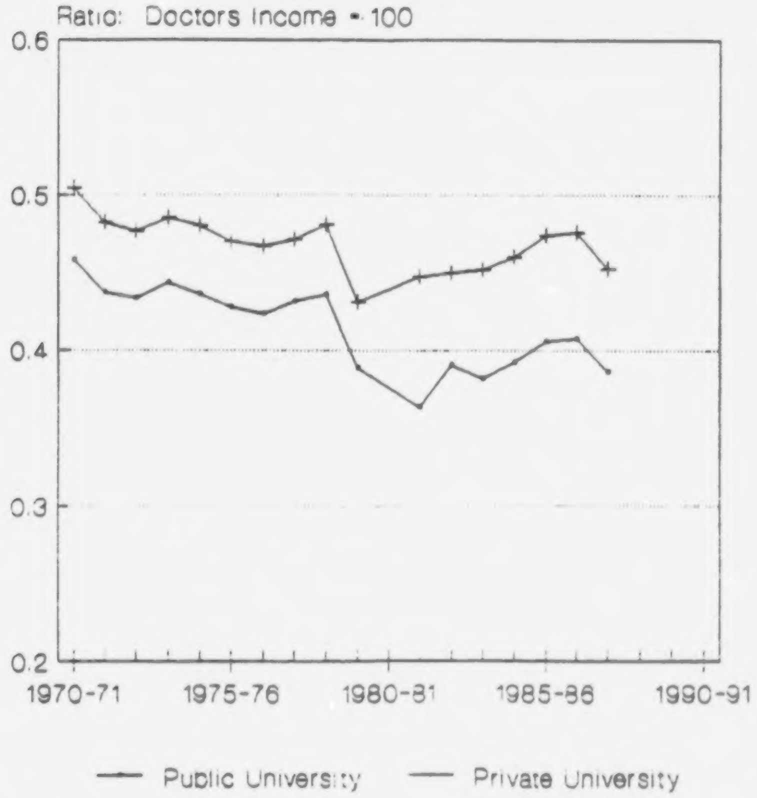
TRENDS IN THE REAL INCOME OF FACULTY

Cumulative Gains / Losses
From Base Years 1961 and 1971



CF+A calculated from BLS and AAUP data.

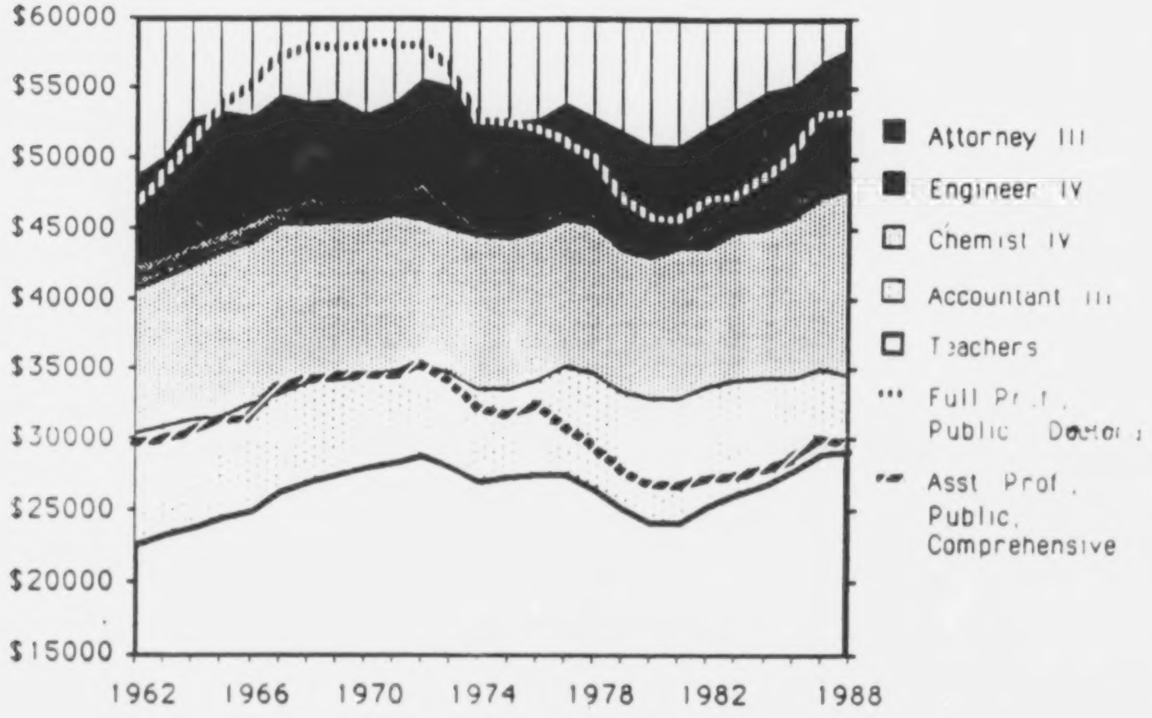
COMPARATIVE EARNING TRENDS:
University Professors Compared with Doctors



Source: AAUP; AMA.

TRENDS IN THE AVERAGE SALARY IN TEACHING AND IN SELECTED WHITE-COLLAR OCCUPATIONS

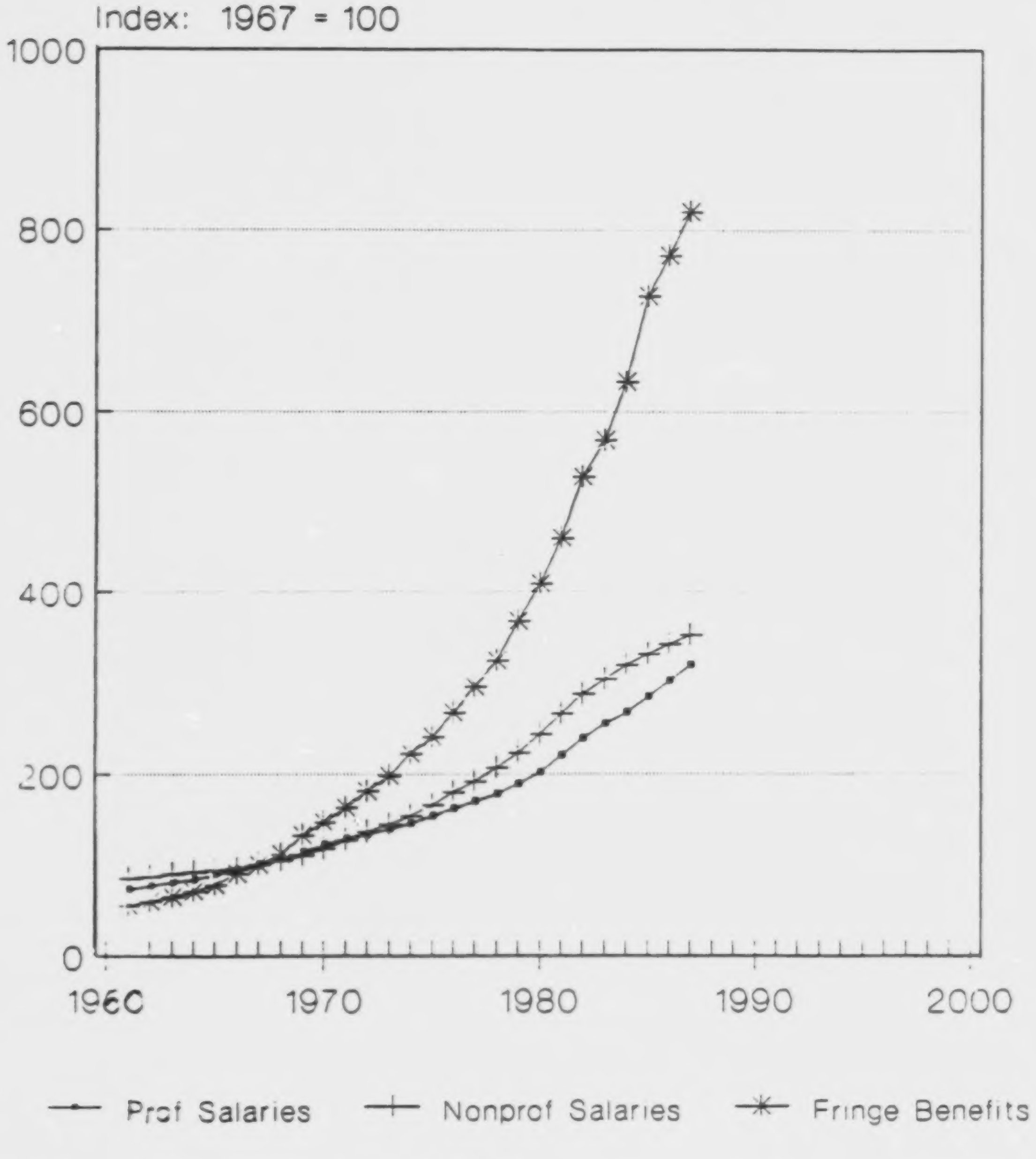
1989 Dollars



Source: Research Department, AFT.

HIGHER EDUCATION COST TRENDS

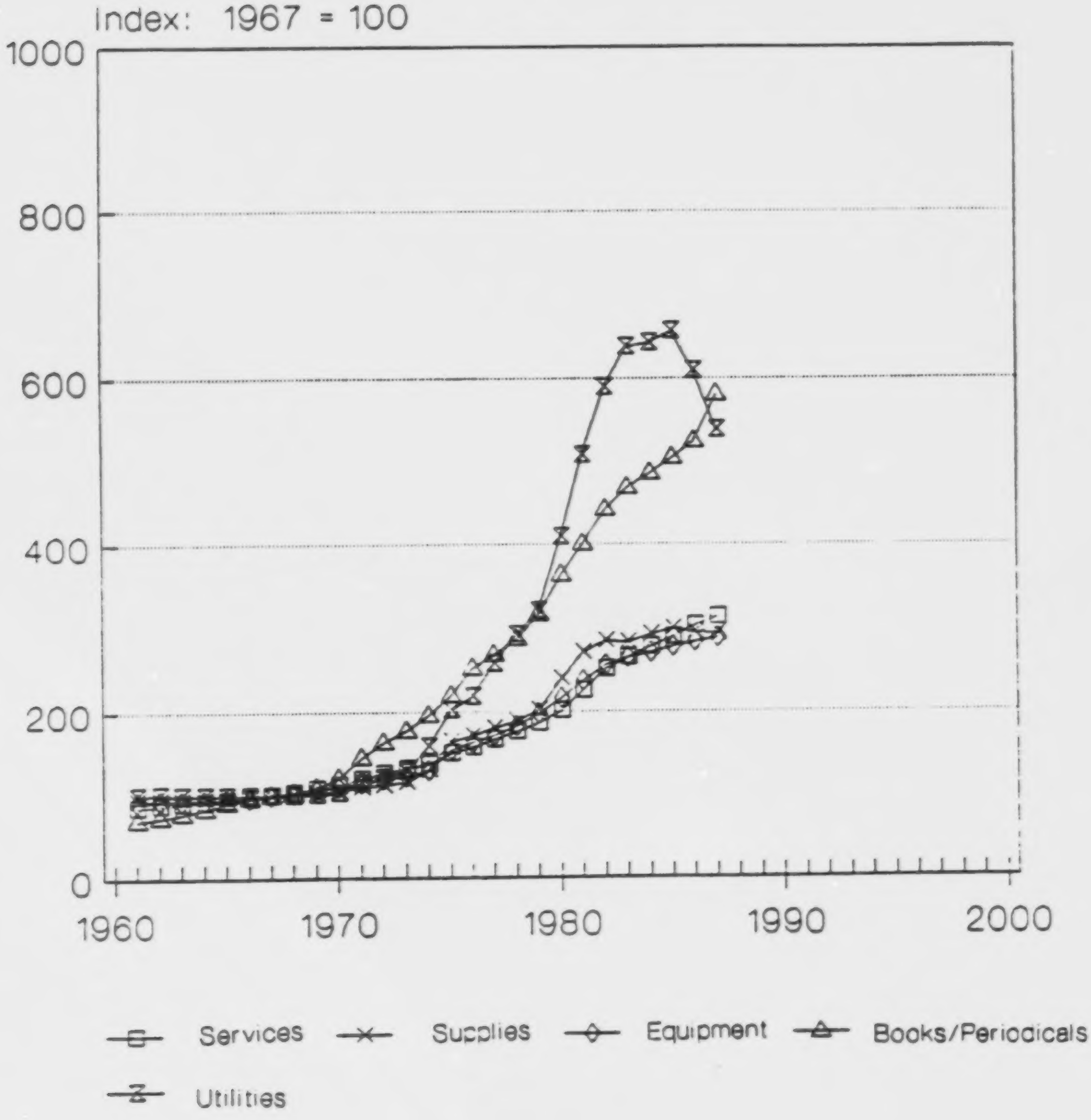
Personnel Compensation



Source: Research Associates.

HIGHER EDUCATION COST TRENDS

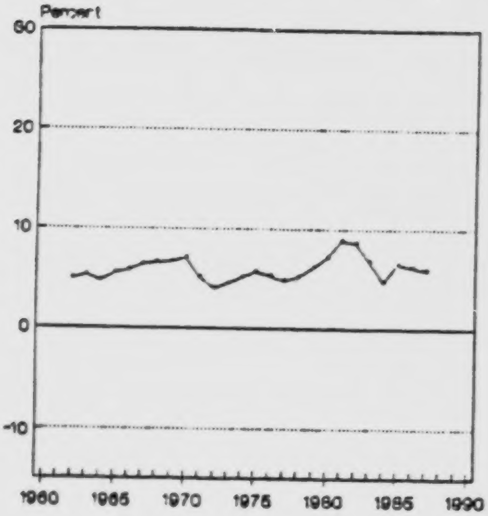
Services, Supplies, Equipment, Books and Periodicals, and Utilities



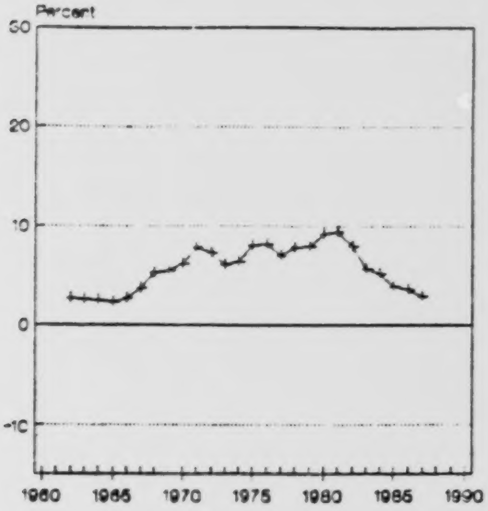
Source: Research Associates.

HIGHER EDUCATION PRICE INDEX COMPONENTS
Year-to-Year Percent Changes

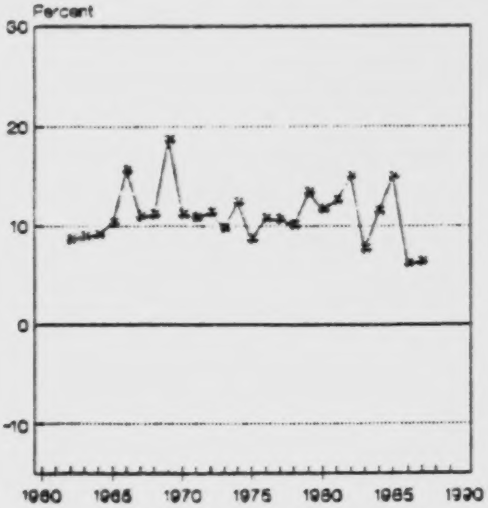
PROFESSIONAL SALARIES



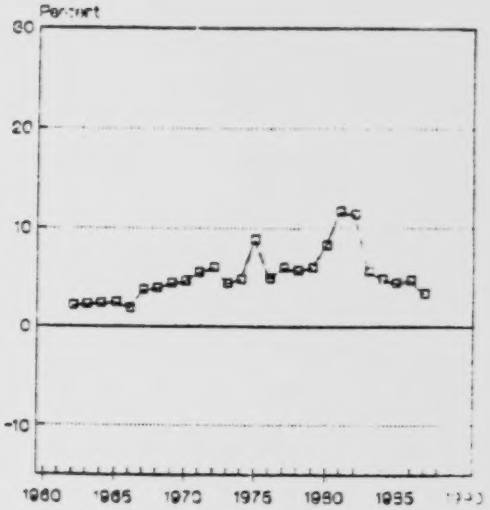
NONPROFESSIONAL WAGES



FRINGE BENEFITS



CONTRACTED SERVICES



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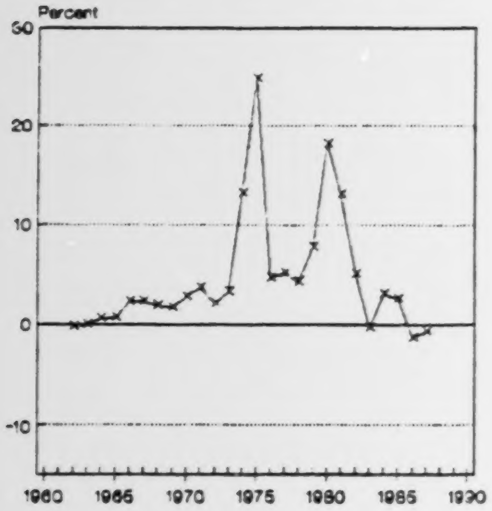
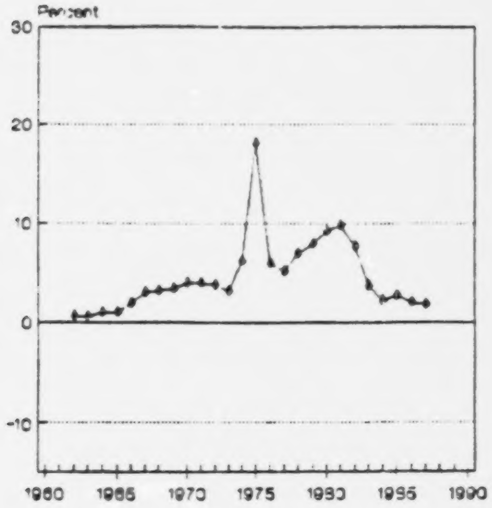
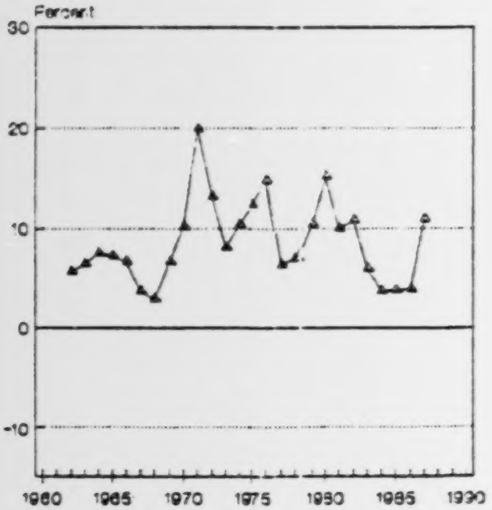
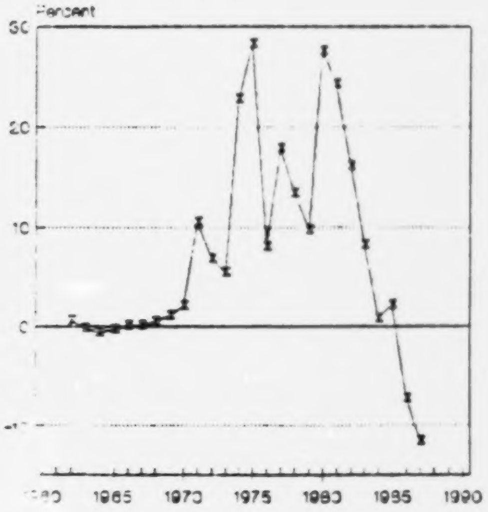

SUPPLIES

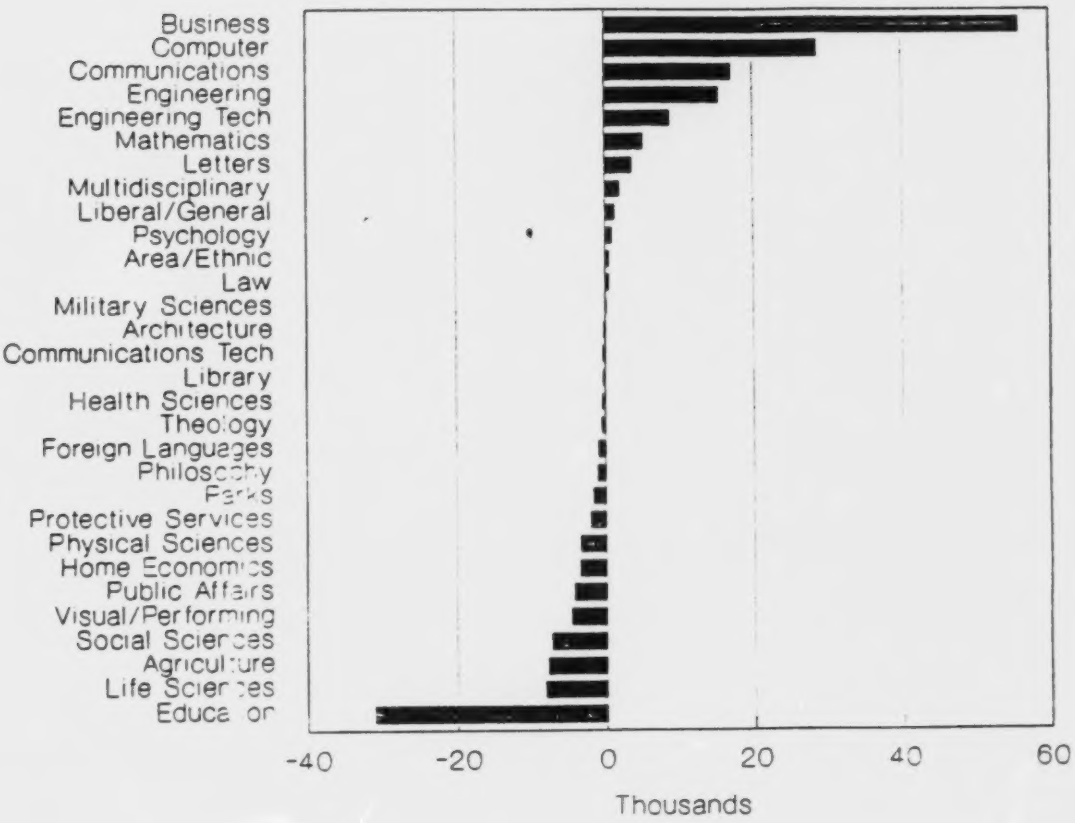

EQUIPMENT


BOOKS / PERIODICALS


UTILITIES

CHANGE IN BACCALAUREATE DEGREES

1979-80 to 1986-87



Source: U.S. Department of Education.

FEDERALLY MANDATED SOCIAL PROGRAMS

. EQUAL EMPLOYMENT OPPORTUNITY

. EQUAL PAY

. AFFIRMATIVE ACTION

. AGE DISCRIMINATION

. WAGE AND HOUR STANDARDS

. OCCUPATIONAL SAFETY AND HEATLH

. ENVIRONMENTAL PROTECTION

. HANDICAPPED ACCESS

. NONDISCRIMINATION IN RETIREMENT BENEFITS

. NONDISCRIMINATION IN EMPLOYEE BENEFITS

. EMPLOYEE RIGHT TO KNOW OF POTENTIAL EXPOSURE TO TOXIC CHEMICALS

. CARE OF LABORATORY ANIMALS

ADDITIONAL FEDERALLY MANDATED PROGRAMS

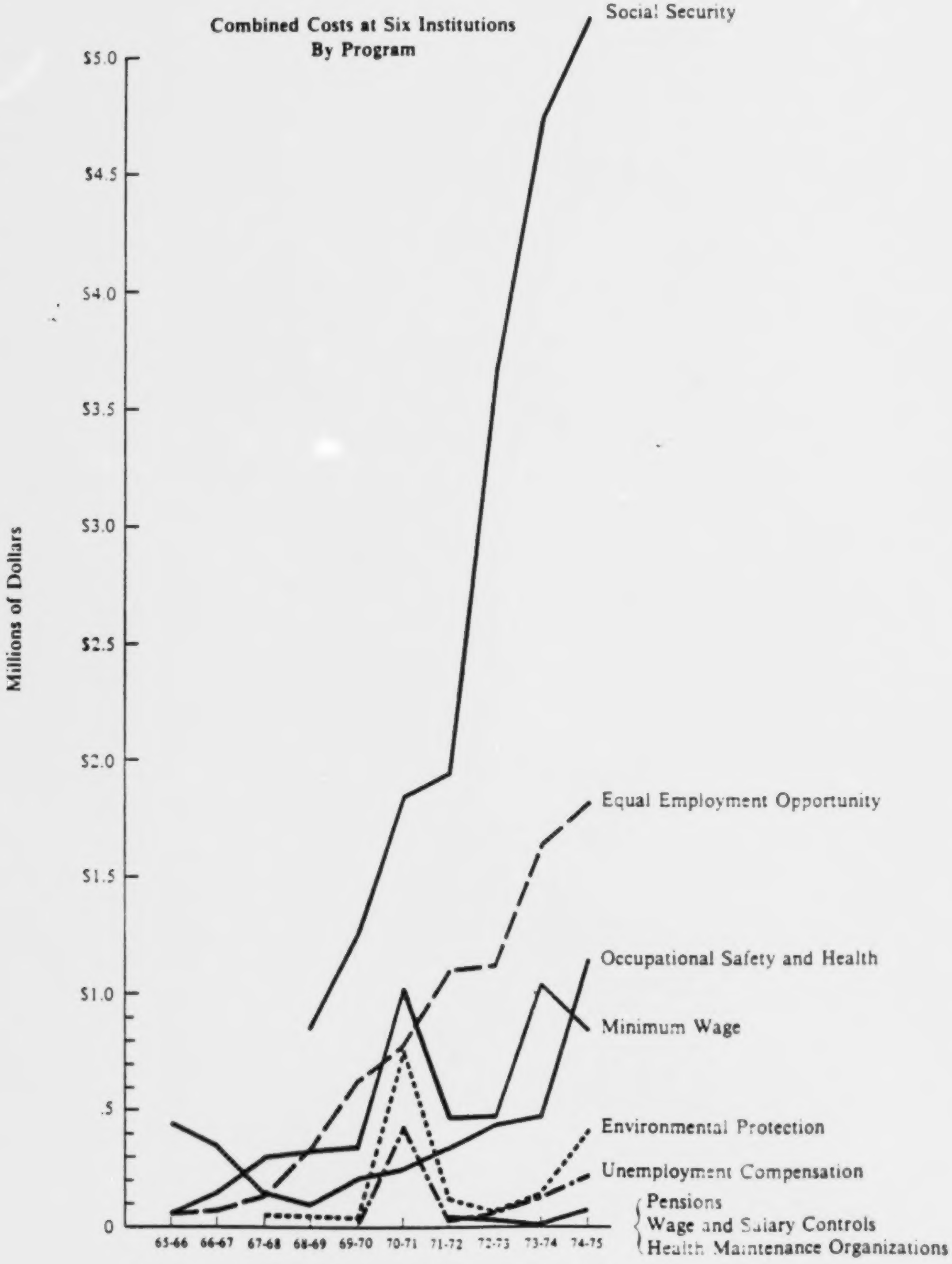
. UNEMPLOYMENT COMPENSATION

. SOCIAL SECURITY TAXES

OTHER FEDERAL PROGRAM COSTS

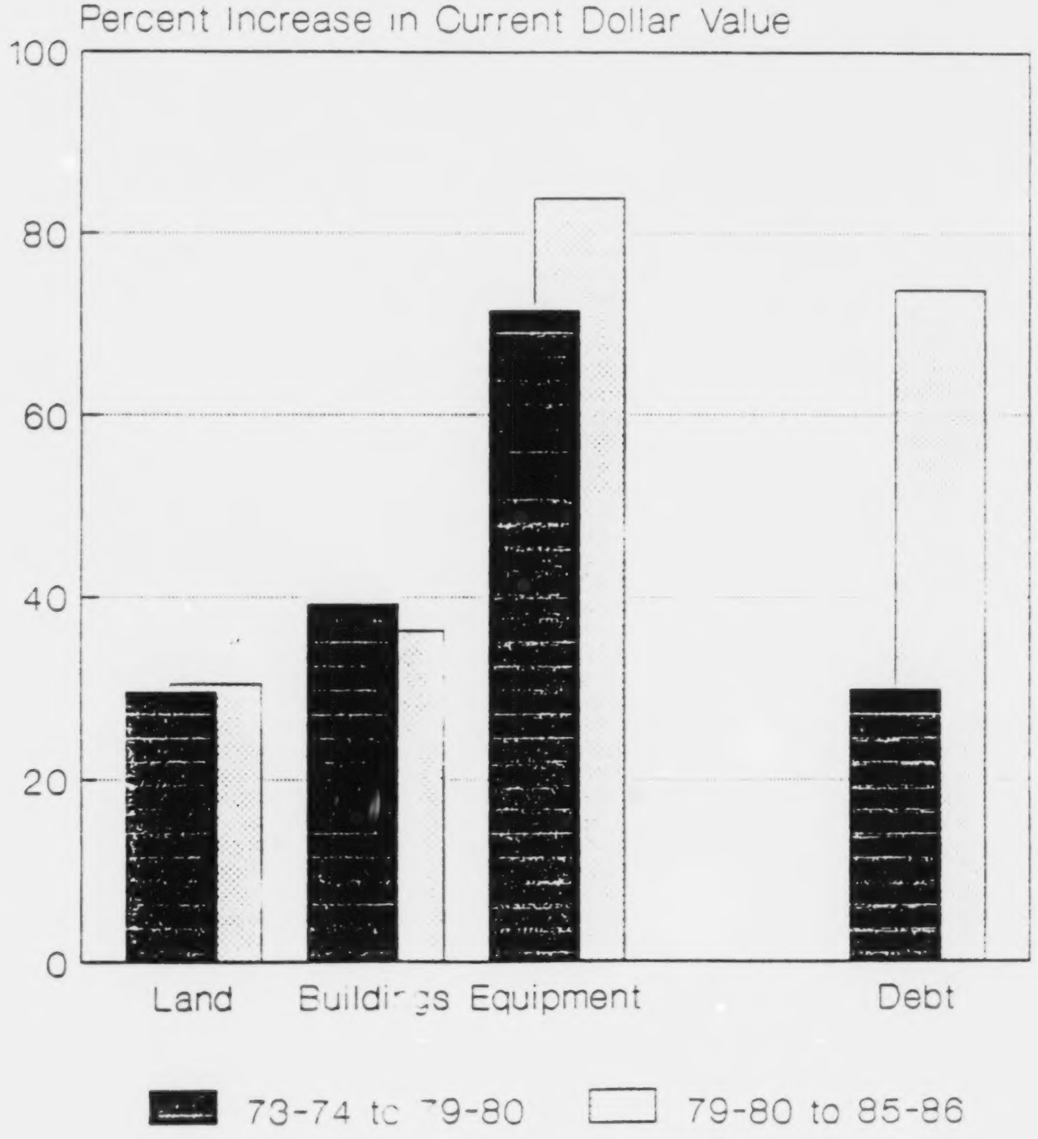
. FEDERAL STUDENT AID COMPLIANCE

Trends in Costs of Implementing Federally Mandated Social Programs
1965-1975



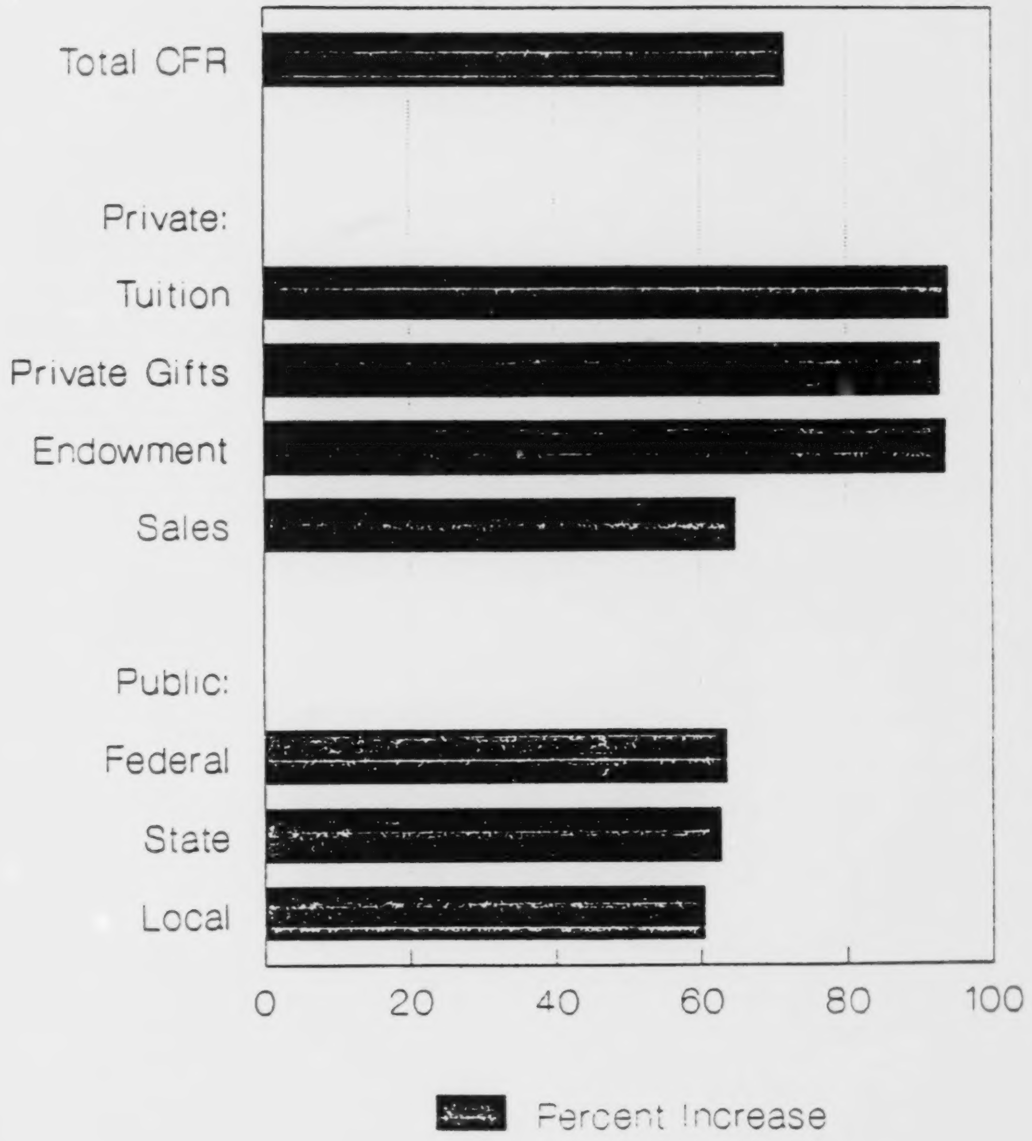
Source: American Council on Education, Policy Analysis Service.
Data compiled by the Special Costs Study Task Force, Spring 1975

TRENDS IN PHYSICAL ASSETS AND IN DEBT OF COLLEGES AND UNIVERSITIES



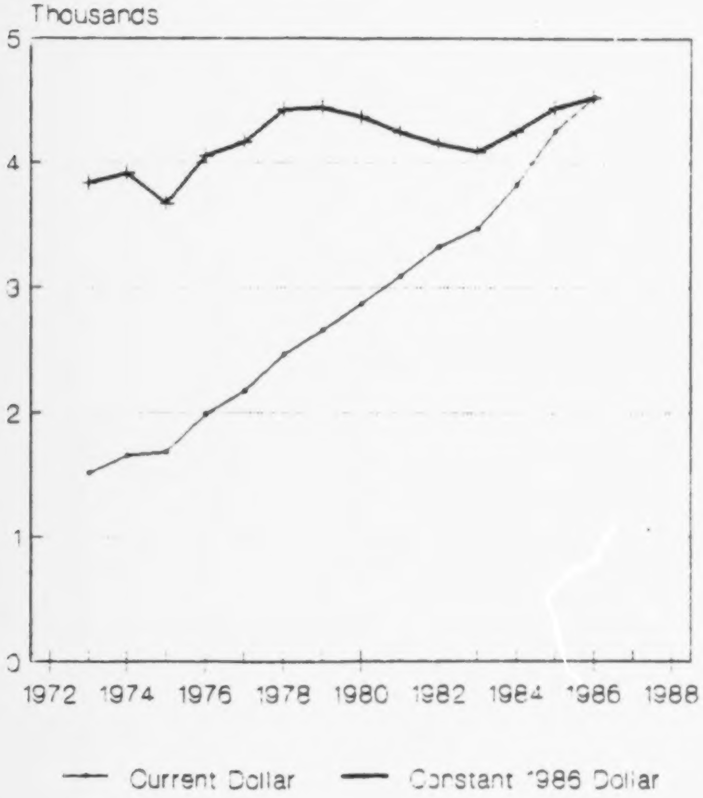
Source: USDE, OFR, NCES

INCREASES IN CURRENT FUND REVENUES BY SOURCE
1979-80 to 1985-86



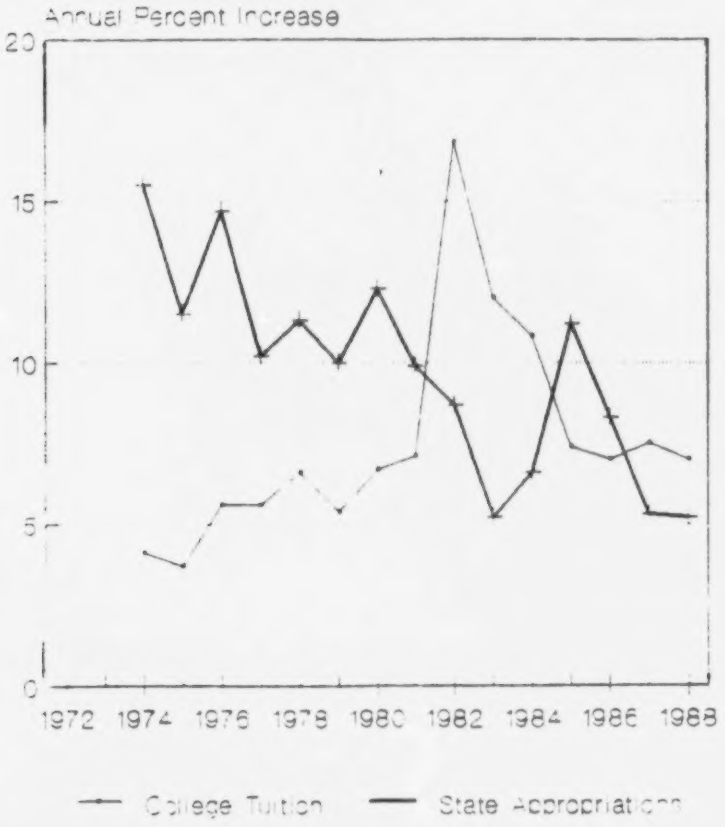
Source: U.S. Department of Education

STATE HIGHER EDUCATION APPROPRIATIONS PER STUDENT
1973 - 1986



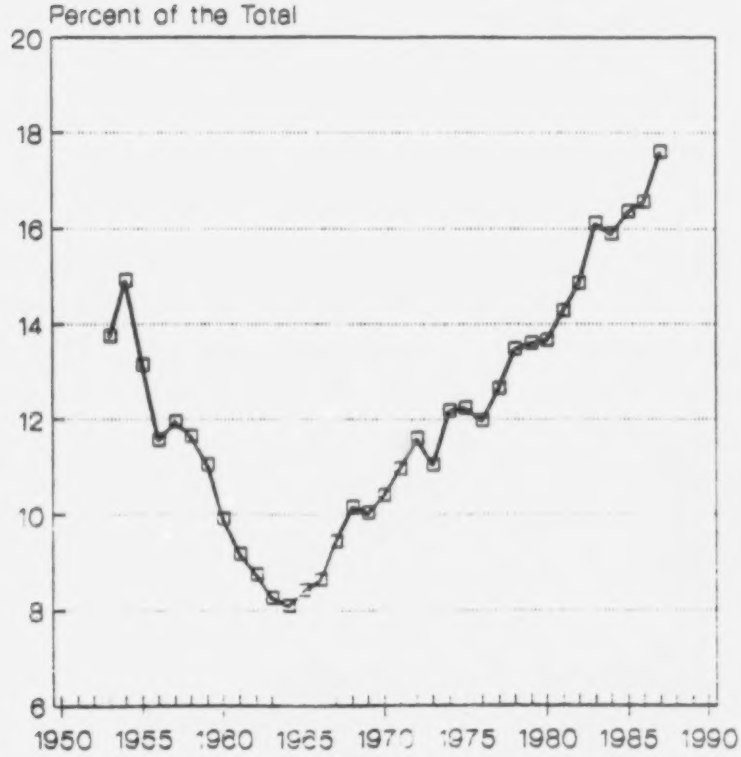
Sources: Calculated using SHEEO, NCES, and HEPI data.

RELATIONSHIP BETWEEN INCREASES IN STATE COLLEGE TUITION AND STATE COLLEGE APPROPRIATIONS



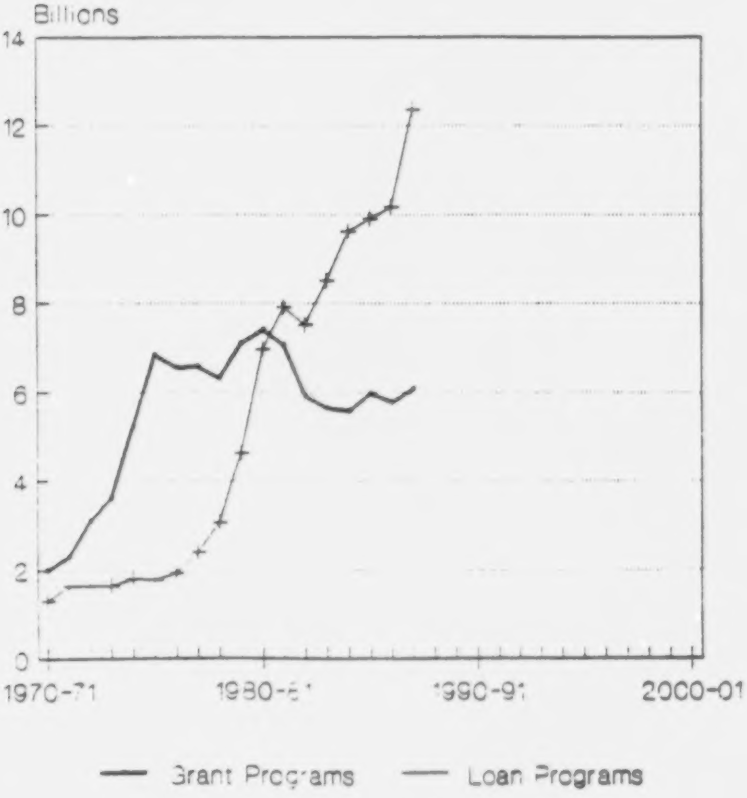
State Higher Education ExecutiveOfficers

PERCENT OF UNIVERSITY R&D THAT IS SELF-FUNDED



Source: Calculated from NSF data.

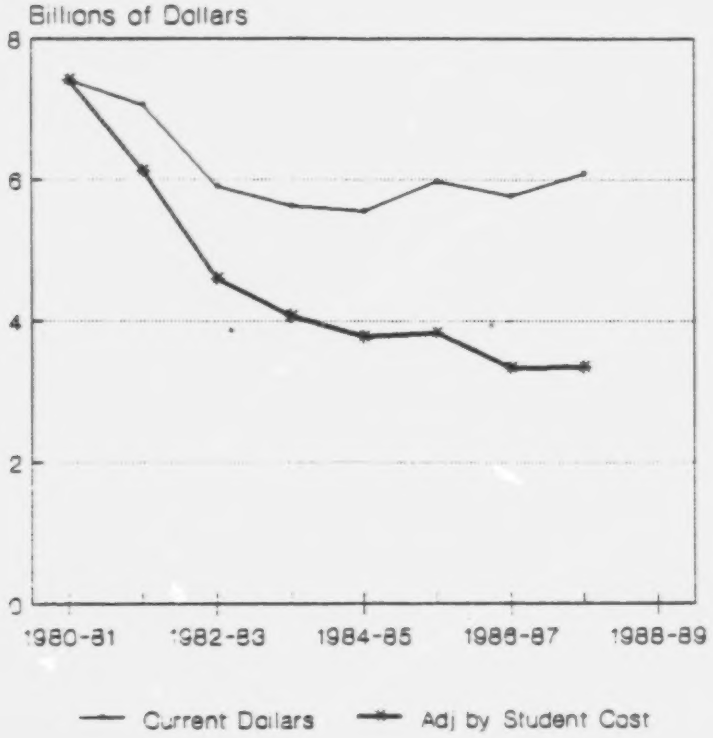
FEDERAL STUDENT AID: CHANGING COMPOSITION FROM GRANTS TO LOANS



Source: Based on College Board data

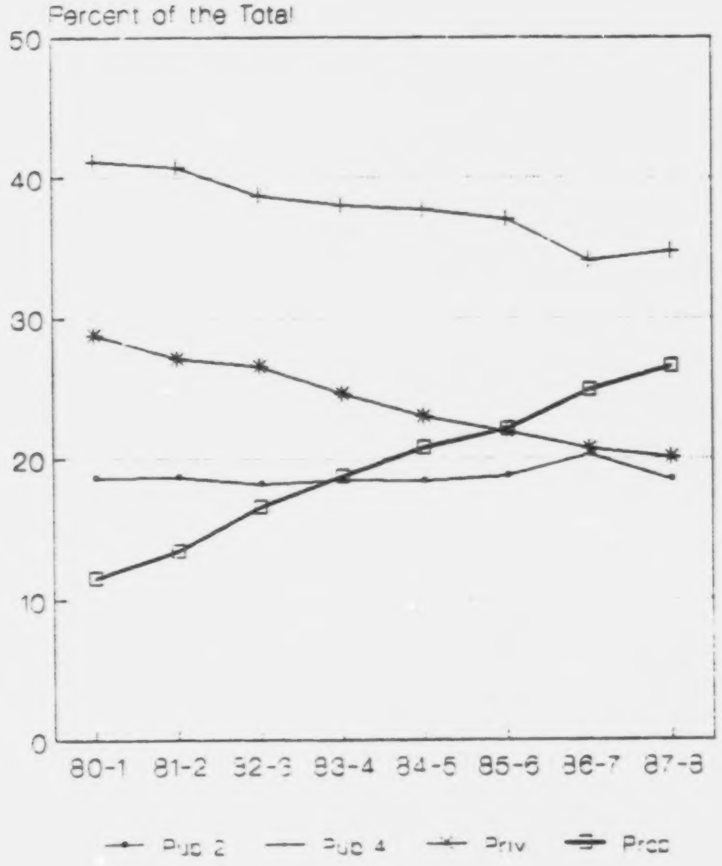
FEDERAL STUDENT AID: STUDENT GRANT PROGRAMS

Current Dollars/Adjusted by Student Cost



Source: Calculated by Carol Frances + Associates using USDE, USDC, and College Board data.

TRENDS IN DISTRIBUTION OF PELL GRANTS BY TYPE OF INSTITUTION



Source: Based on data from College Board

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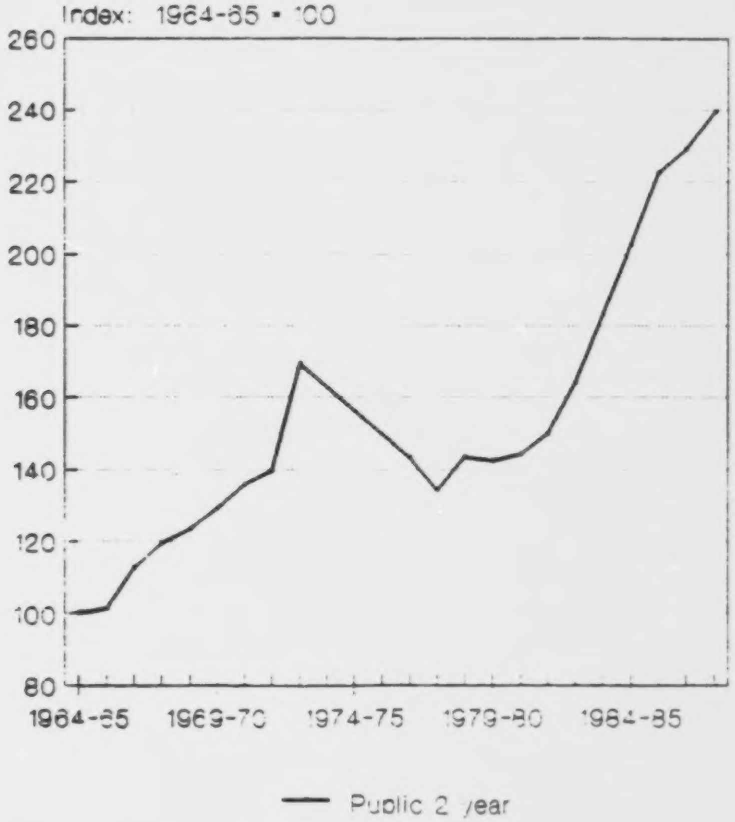
INDEX OF SELF-HELP EFFORT REQUIRED TO PAY FOR COLLEGE WORKING AT THE MINIMUM WAGE



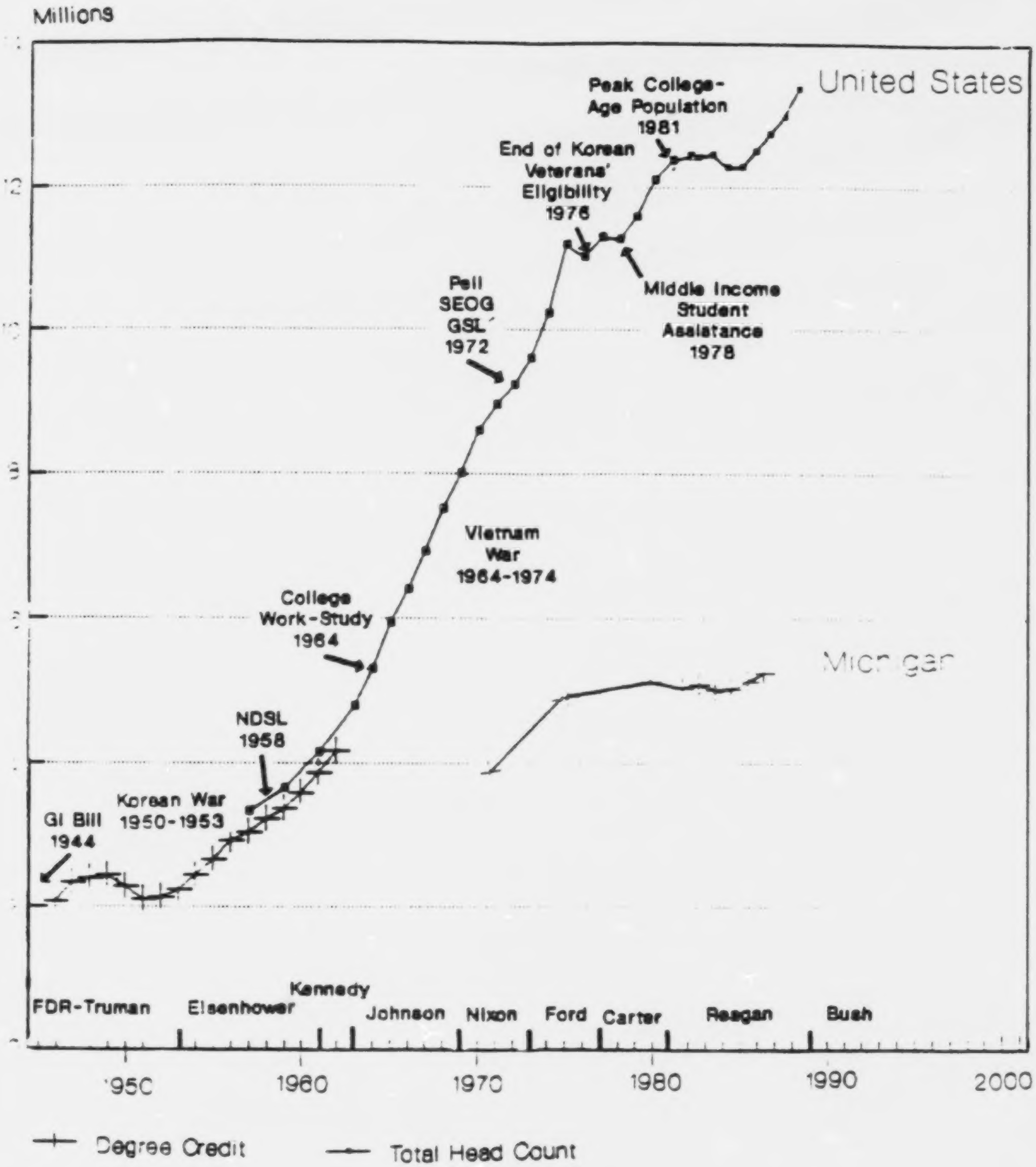
Source: CFA based on data from USDE

POSSIBLE IMPACTS OF HIGH TUITION ON ACCESSIBILITY:

- SLOWER GROWTH OF TOTAL ENROLLMENT
- MINORITY ENROLLMENT DECLINES
- OUTMIGRATION OF STUDENTS
- SHIFTS BETWEEN PUBLIC AND PRIVATE SECTORS

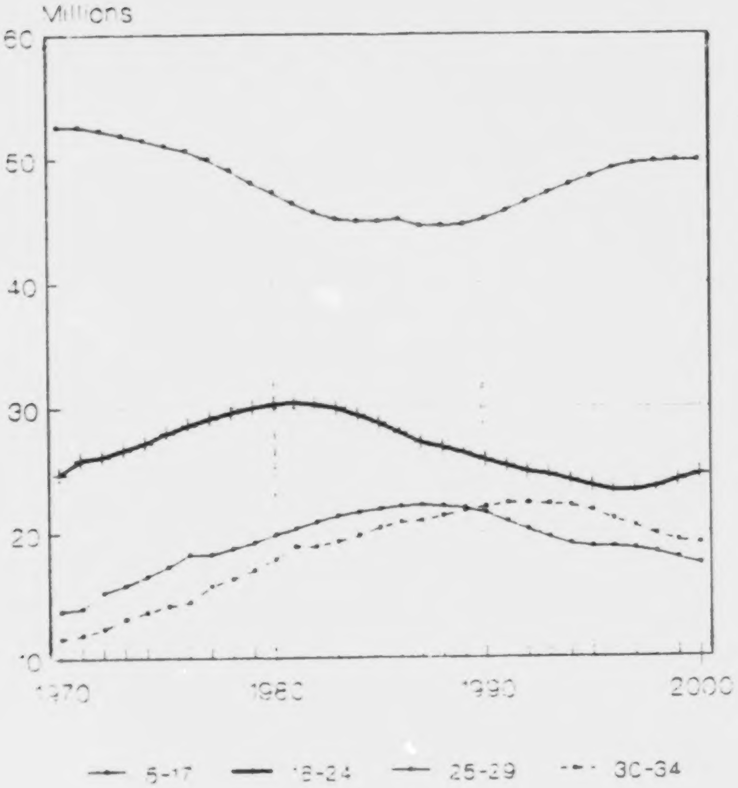
- SECONDARY IMPACTS
  - CHOICE OF MAJOR
  - TIME TO COMPLETION
  - INCREASED STUDENT INDEBTEDNESS

CHRONOLOGY OF ECONOMIC CYCLES AND POLITICAL EVENTS THAT HAVE AFFECTED COLLEGE ENROLLMENTS



Source: Based on data from NCES.

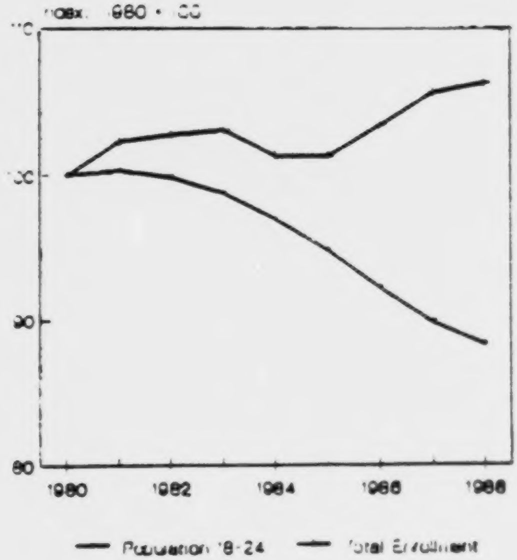
TRENDS IN THE POPULATION, BY AGE 1970-2000



Source: Bureau of the Census

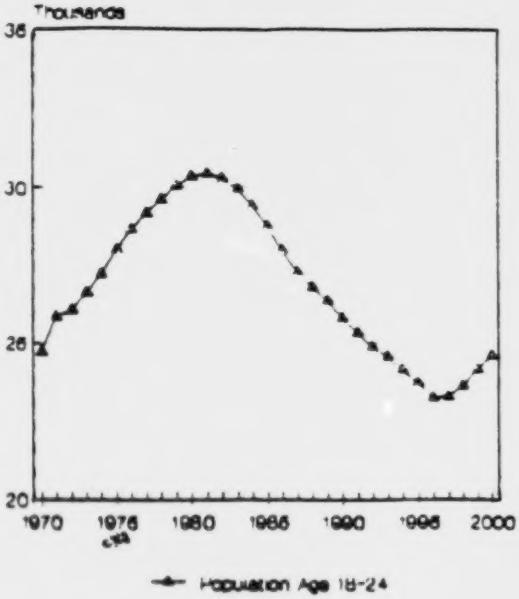
DEMOGRAPHICS

COMPARATIVE TRENDS: ENROLLMENT / POPULATION 18-24



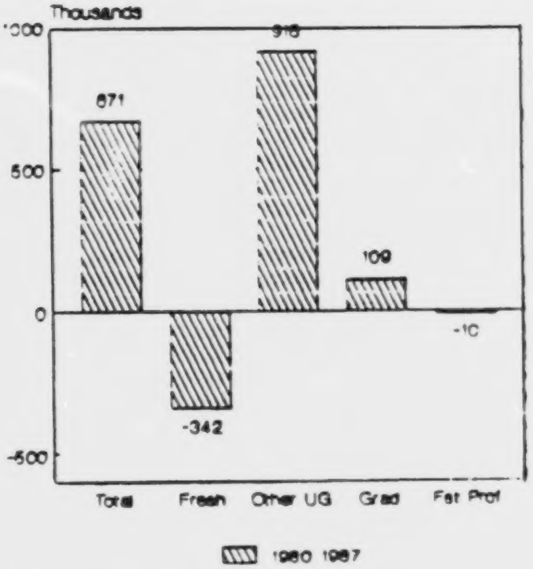
Source: Based on data from USDC, USDE

TRENDS IN THE U.S. POPULATION AGE 18-24



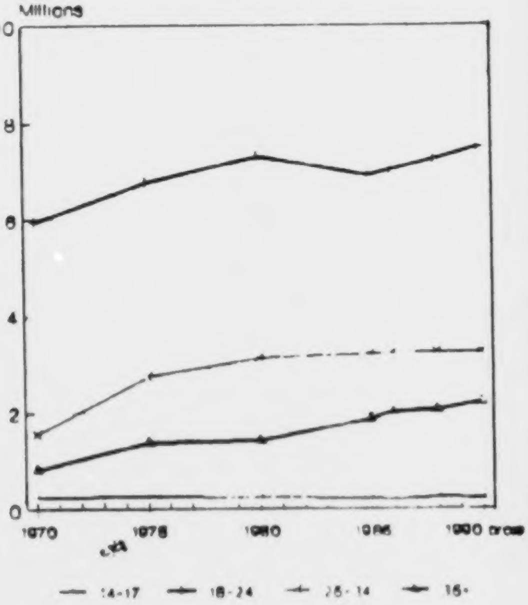
Source: Bureau of the Census

ENROLLMENT CHANGE, BY LEVEL, 1980 - 1987



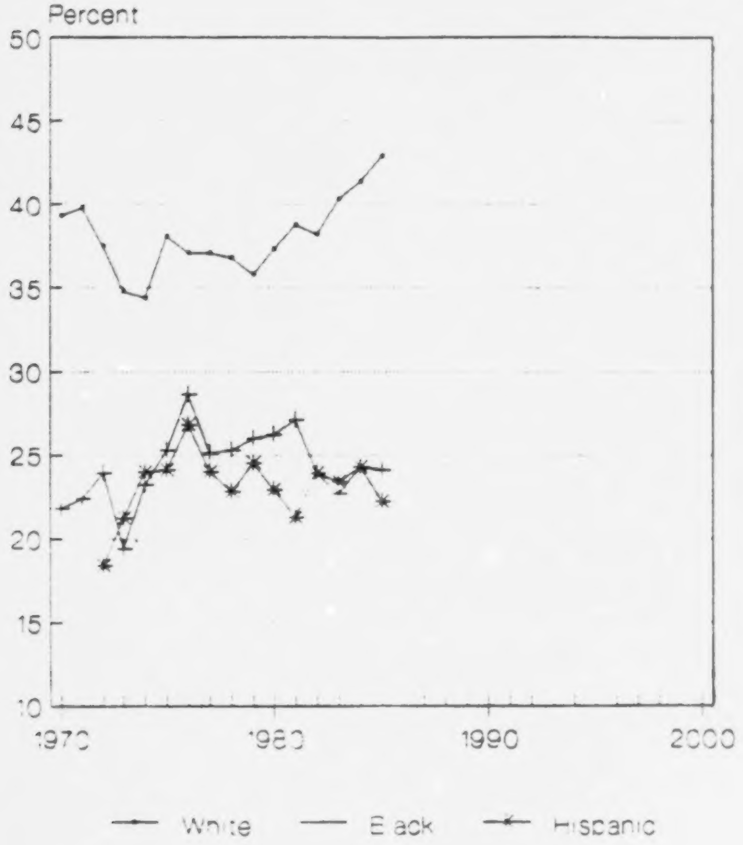
Source: Based on USDE data.

TRENDS IN COLLEGE ENROLLMENT BY AGE



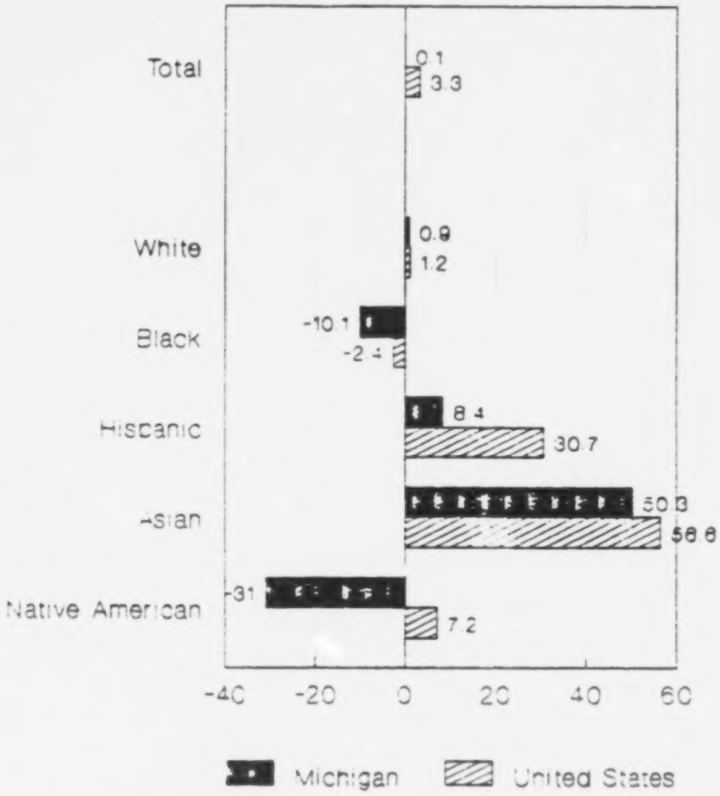
Source: U.S. Department of Education

COLLEGE-GOING RATES
18-19 YEAR OLDS, BY RACE



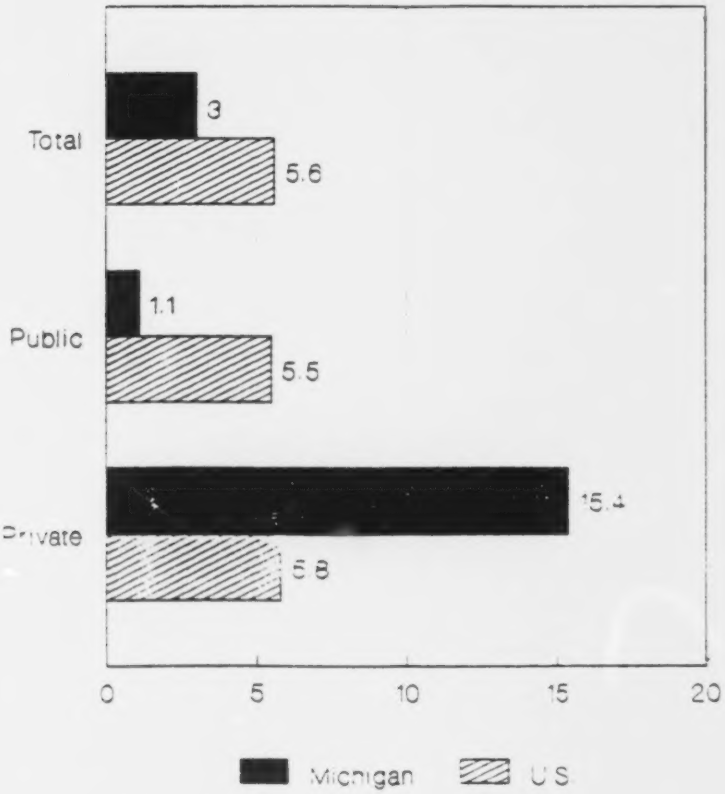
Source: Calculated from Census data.

COMPARATIVE ENROLLMENT TRENDS
MICHIGAN AND U.S.
1980-1986



Source: USDE, NCES

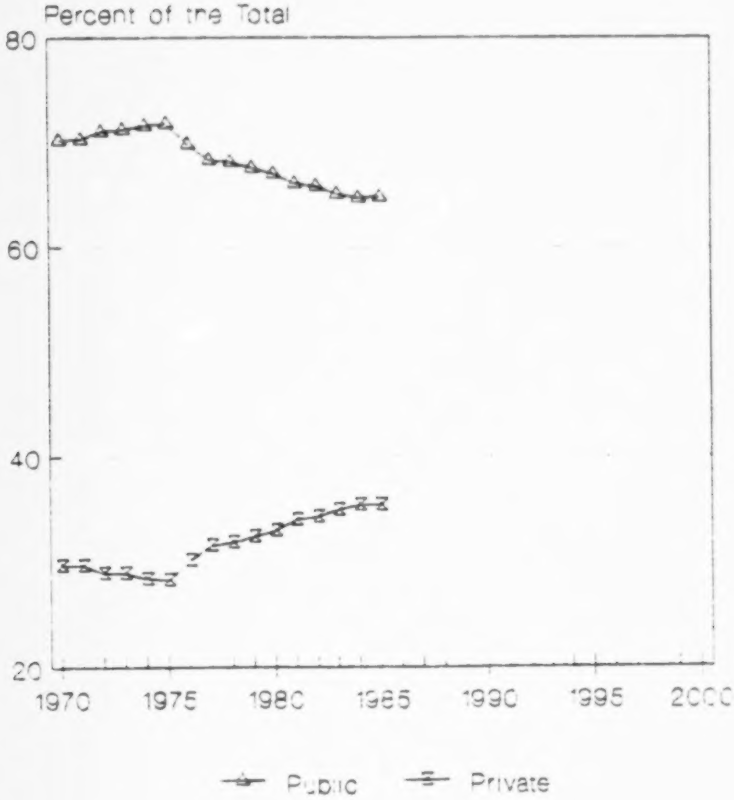
COMPARATIVE ENROLLMENT TRENDS: MICHIGAN AND U.S.
1980 - 1987



Source: USDE, NCES.

TRENDS IN THE SHARE OF GRADUATE ENROLLMENT

By Type of Institution



Source: U. S. Department of Education

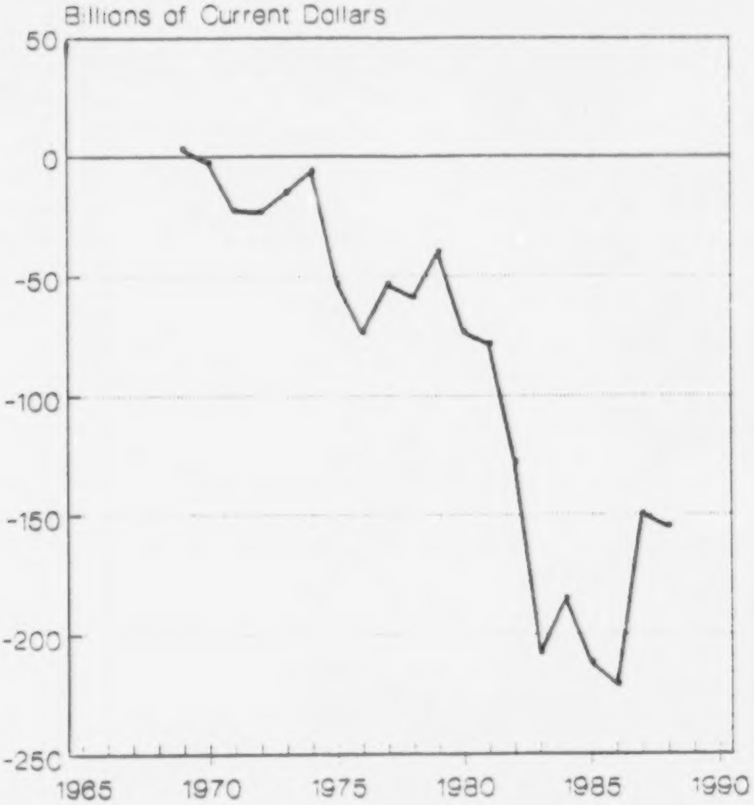
TRENDS IN:

1. COSTS
2. ABILITY TO PAY FOR COLLEGE
3. STUDENT FINANCIAL AID
4. ECONOMIC DEVELOPMENT / WORKFORCE EDUCATION AND TRAINING NEEDS

OUR NATION HAS FOUR DEFICITS:

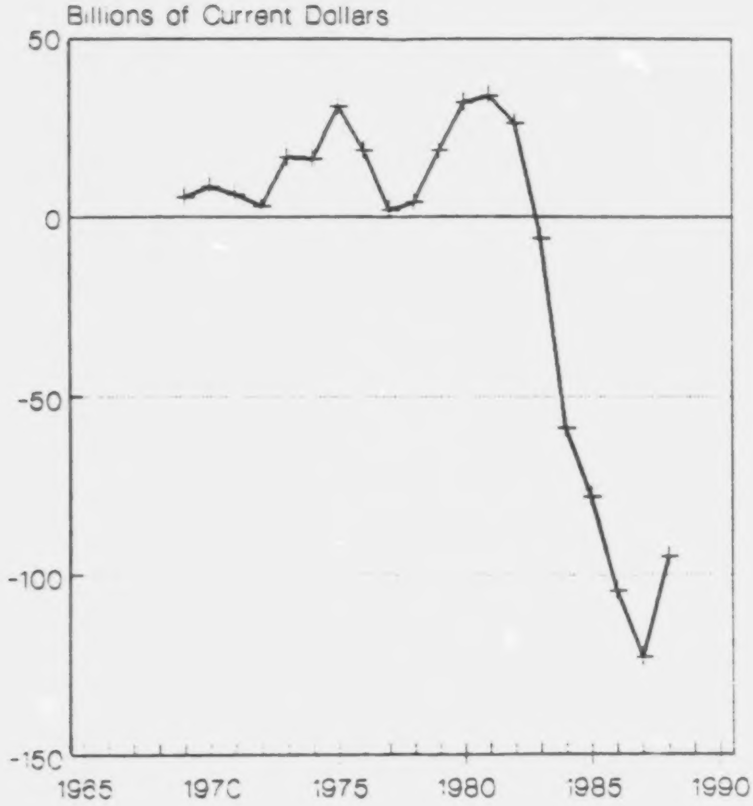
1. FEDERAL BUDGET DEFICIT
2. TRADE DEFICIT
3. PHYSICAL INFRASTRUCTURE
4. HUMAN RESOURCE INVESTMENT

U.S. BUDGET SURPLUS / DEFICIT



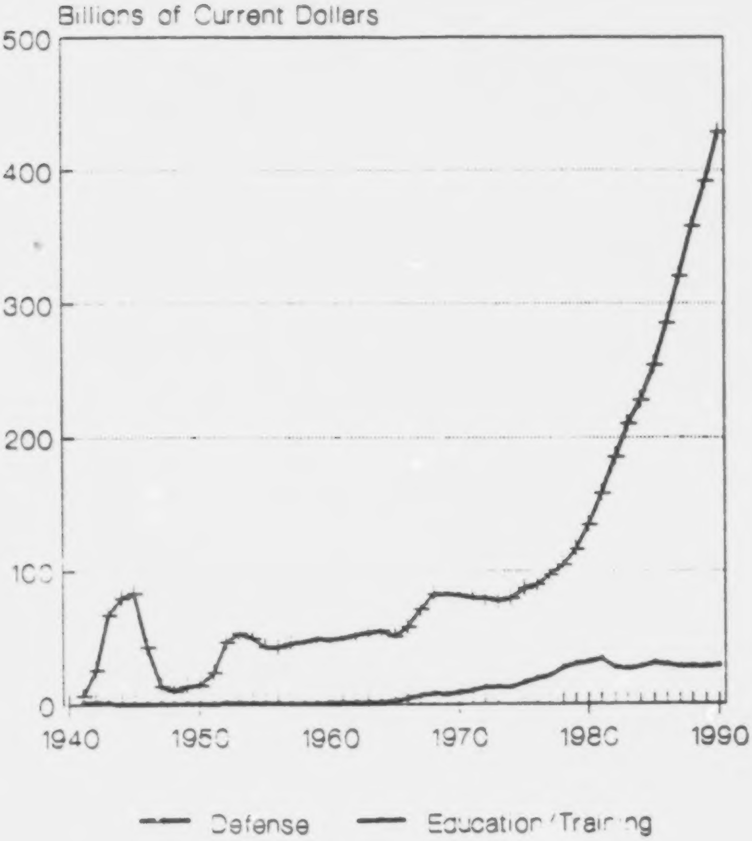
Source: Congressional Budget Office

U.S. TRADE SURPLUS / DEFICIT



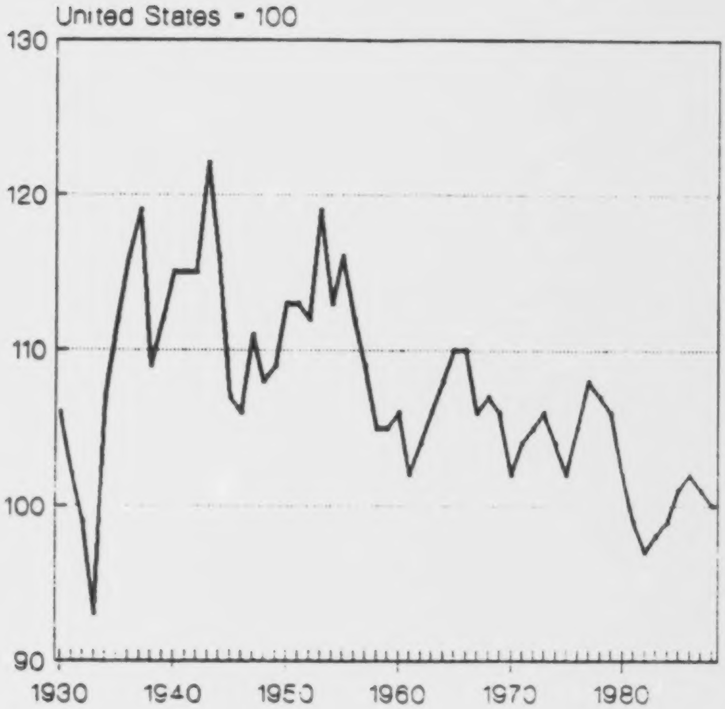
Source: Congressional Budget Office

FEDERAL BUDGET ALLOCATIONS FOR NATIONAL PRIORITIES



Source: OMB. Budget, Historical Tables.

MICHIGAN PER CAPITA INCOME AS A PERCENT OF THE NATIONAL AVERAGE



Source: USDC, BEA.

Kent Halstead

Kent Halstead, president of Research Associates of Washington, D.C., presented a comparative analysis of the financing of Michigan higher education. Developer of the Higher Education Price Index (HEPI), Halstead reported on Michigan's standing relative to other states on tuition, appropriations, and affordability measures.

Research Associates of Washington
2605 Klingle Road, N.W.
Washington, D.C. 20008
(202) 966-3326

A COMPARATIVE ANALYSIS OF THE FINANCING OF MICHIGAN PUBLIC HIGHER EDUCATION

Kent Halstead

The financing of public higher education as with all public services is a complex business, made especially difficult because there are no absolutes. Dozens of factors are involved and most of the decisions are matters of judgment and philosophy. Clarity and perspective can be brought to the matter by use of inter-state comparisons of the key variables. Stating the financial task in terms of fundamentals focusses attention where the critical decisions must be made; expression in comparative terms assists in making these decisions by establishing relative limitations and opportunities.

A majority of the major decisions affecting public higher education funding are made at the state level. The basic determining conditions of student load and tax capacity are state-wide factors. As the state goes, so go institutions. Hence the state-level focus.

Debate over state tax support versus student payment will eventually circle back to state objectives in providing public higher education. Statements of purpose usually contains two key words--"accessible" and "quality." Interpretation of these two objectives within the restraint of fiscal capacity constitutes the fundamental task of the education community--citizens, legislators, administrators and faculty, and students and parents.

Overview of Analysis

The analysis of Michigan's financing of higher education presented here is based on the data and format of State Profiles.[1] The analysis is characterized by:

- simplification to fundamentals.
- emphasis on relationships or inter-working of variables (if you do this, these are the consequences).
- attention to trends as much as absolute values.
- rigorous definitions of data to ensure comparability
- use of adjustment factors to account for inflation (HEPI), public system enrollment configuration (System Support Index), and geographical cost differences (Cost of Government).

---

[1] State Profiles: Financing Public Higher Education 1978 to 1989, Research Associates of Washington, Washington, D.C., 1989, 209 pages.

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The state higher education finance data are for 1988-89, high school graduates for the spring of 1988, tax measures for 1987. Appropriations are for current operations including state student aid, and exclude funds for research, medical colleges and hospitals, and agriculture. Indexes are relative to the U.S. average = 100.

The analysis is organized into five topics:
(1) student enrollment load
(2) taxation
(3) state appropriated funding
(4) role of tuition
(5) total funding and access

Peer States

Peer states help in focussing on a few realistic comparisons and establishing central tendency. Three criteria may be used:

- Physical proximity to establish commonality of many intangibles.
- Public system enrollment size and university vs two-year orientation.
- State tax capacity.

Candidates based on geography: Illinois, Indiana, Iowa, Kentucky, Minnesota, Missouri, New York, Ohio, Pennsylvania, and Wisconsin. From the chart below, Illinois, Ohio, and Pennsylvania have been chosen.

	FTE Enroll (000)	System Spt Index	Tax Capacity
Mich	331 ✓	103 ✓	98 ✓
Ill	355 ✓	96 ✓	95 ✓
Ind	161	112	87
Iowa	96	118	83
Kty	103	114	76
Minn	169	109 ✓	103 ✓
Mo	124	102 ✓	94 ✓
NY	430 ✓	89	111
Ohio	323 ✓	109 ✓	91 ✓
Penn	268 ✓	105 ✓	91 ✓
Wis	188	103 ✓	85

State Enrollment Load

ENROLLMENTS: #1 High School Graduates per 1,000 population
Chart 1 #2 College Expansion Ratio
#1 x #2 = FTE Enroll per 1,000 population (curved lines)

The College Expansion Ratio of FTE public enrollment to high school graduates measures the degree to which a state provides attractive and accessible opportunities for higher education to both in-state and out-of-state students relative to the size of its resident student source. High ratios indicate states heavily in the "business" of higher education compared to their basic responsibility to high school graduates.

Michigan, with the nation's second highest proportion of its population graduating from high school, has only average success in attracting this large source group to attend its state colleges and universities. The peer group offers no goals; Michigan may look to Wisconsin and Minnesota for reasons why high school graduates in these states find their public system attractive and accessible. Still, Michigan operates a very large public system relative to its citizen population (12th in nation).

Michigan's trends are declining high school graduates relative to population (same as national average decline); gradually increasing participation ratio consistent with national average; slight growth in enrollment per capita.

State Taxation

TAXATION: Chart 2	#3 Tax Capacity per capita #4 Tax Effort per capita #3 x #4 = Tax Revenues (curved lines)

Tax capacity or potential is defined as the amount of revenue state and local governments could raise based on application of national average tax rates to their respective tax bases. Tax effort is the percent of capacity actually collected. Tax revenues represent the wealth available for public use.

Michigan's tax capacity is near the national average; the state's effort is 13 percent above average and consequently Michigan collects ten percent more tax revenues per capita than the national average ($1,757 compared to $1,596), an 11th place ranking. Michigan's trend in tax capacity is steady at the national average; effort peaked in 1984 (1985-86 academic year); collected revenues peaked in 1984 compared to the national average. The ACIR table shows Michigan's heavy reliance on property tax as in Illinois. General sales tax under-utilized.

Because Michigan runs such a large public system, tax wealth relative to student enrollments is six percent below the national average, Illinois one percent above, Ohio five percent below, and Pennsylvania 23 percent above. Now we can see the potential funding advantage of Pennsylvania in operating the smallest system relative to population of any of the four peer states.

State Appropriated Funding

ALLOCATION: Chart 3	Tax Revenues per capita Alloc/Enroll Ratio: #5 Allocation percent/Enrollment per capita Ratio x Tax Rev = Approp/FTE student (curved lines)

The Allocation Percent #5 is the proportion of state tax revenues appropriated for support of state public institutions. This measure indicates the importance of public higher education in the state's overall budget. Michigan allocates 7.7 percent of its collected tax revenues to public higher education, highest among the peer states. The national average is 8.1 percent.

The allocation percent is highly dependent on the size of the public system. A better relative measure of the priority given to higher education funding is the ratio of the allocation percent to public enrollment (#5/ENROLL). High values of this "state funding effort" measurement indicate a large share of the state's tax revenues have been allocated to public higher education relative to the system's enrollment load requirement.

Michigan's state funding effort is 49th in the nation, 19% below the national average, a ratio of 2.14 compared to the U.S. average of 2.65. Illinois is 16% below, Ohio 13% below, and Pennsylvania 7% above. The resulting education appropriation level in Michigan is $3,766 per FTE student, 33rd in the nation, 11% below the national average. If system funding requirements (SSI = 103) are taken into account and geographical prices (COG = 106), Michigan's position is even lower, 19% below average.

Michigan's appropriations per FTE student in dollars of constant institutional purchasing power (adjusted by the HEPI) have declined seven percent since 1977-78. The Higher Education Price Index reports inflation affecting the prices of goods and services purchased by colleges. Components of the index include faculty and administrative salaries, nonprofessional salaries, fringe benefits, contracted services, supplies and materials, small equipment items, books and periodicals, and utilities. The HEPI is used as an adjustment factor to determine real investment and may be projected to establish future budget requirements. The index may also be used as a guide for tuition increases based on the need to maintain institutional purchasing power. Note, however, that in controlling the largest single cost, faculty salaries, increases in the HEPI are largely set by institutions themselves. In periods of low general inflation the HEPI may be high as institutions attempt to improve faculty salary purchasing power. In general, the HEPI is more stable than the CPI, less prone to violent fluctuations.

	Approp/ student	11-yr constant dollar change	
Michigan	$3,766	-7.0%	(tax rev 1st, state funding effort 4th)
Illinois	$3,595	-6.5%	(tax rev 2nd, state funding effort 3rd)
Ohio	$3,423	+3.9%	(tax rev 3rd, state funding effort 2nd)
Pennsylvania	$4,068	-12.2%	(tax rev 4th, state funding effort 1st)
U.S.	$4,234	+1.3%	

The inverse relationship between tax wealth and state education funding effort among peer states suggests that states "make up" for low tax revenues by allocating more for public higher education.

Trends: Michigan's allocation is a consistent 7+ to 8+ percent of budget. The state's funding effort has been steady for the last seven years. Michigan's appropriations per FTE student have lost ground since a 1978 peak (97% of national average).

Role of Tuition

Low tuition to provide access and encourage attendance is a fundamental tenet of American public higher education. State policy generally prescribes tuition as low as possible for "accessability," relying primarily on appropriations for "quality." There are no prescribed standards for the balance between tuition and appropriations. It is basically a matter of interpreting public will.

The evolving national role of tuition shows a gradual and modest increase in the student's payment share from 13-15 percent of total costs in the early 1950s to 22 to 23 percent in 1990. Keep in mind that the level of public tuitions are so low ($1,271 per FTE student, fall 1987) that the recent 6.3 percent increase in fall 1988 amounted to only $80, not a burdensome addition.

Six relationships may be used to guide tuition policy:

(1) Tuition increases equal to inflation affecting general economy (CPI)

Consumers compare inflation affecting all their purchases. Since 1970 public tuition has increased x3.59; all services x3.59; CPI x3.08. Labor intensive service industries face the same market pressures for salary increases as do manufacturing industries, but without possibilities for offsetting increases in productivity. Higher education's real problem is in failing to more closely tie tuition to the CPI to take advantage of the eight years (fall 1973 through fall 1980 increases) in which prices in the economy doubled while public tuition went up only x1.5. During this period faculty salaries declined 22 percent in purchasing power, from a peak in 1972-73 to an all time low in 1980-81. Education has been trying to catch up ever since. Rule: Match tuition increases to keep pace with the CPI to maintain the faculty's purchasing power, such increases being more readily accepted by the public during periods of high general inflation.

(2) Tuition increases to offset inflation affecting college operations

In the last 11 years the HEPI has increased 105.7% (the CPI, 93.6%), 22 states have maintained or improved the purchasing power of their appropriations; 40 states have maintained the purchasing power of their tuition. Tuition in dollars of constant institutional purchasing power, 1978 to 1989: Michigan +60%, Illinois +38%, Ohio +27%, Pennsylvania +32%, U.S. +23%. Note this positive growth in the purchasing power of tuition in Michigan compared to the loss for appropriations. This indicates the shift toward greater reliance on tuition.

(3) Tuition proportional to ability to pay

Relative to family ability to pay (wife in paid labor force) public tuition nationally has increased from 2.5% in fall 1949 to 3.9% in fall 1985. For state comparisons the ratio of public tuition to personal disposable income per capita can be used. Michigan peaked in 1983-84 at 81 percent above the national average; in 1988-89 the ratio was 73 percent above average, fairly steady for last seven years, previously lower.

Most important is variation among states (1988-89) compared to U.S. average: Michigan +73%, Illinois -27%, Ohio +63%, Pennsylvania +105%. Highest states are: Vermont +339%, Delaware 185%, New Hampshire 112%, Pennsylvania 105%, Michigan 73%. Lowest is California with a 67% below average ratio. Conclusion is that Michigan residents exert greater "family effort" paying public tuition out of their incomes than do residents of 46 other states.

(4) Tuition balanced with other "user taxes"

Tuition as a "user tax," similar to taxes on retail sales, licenses, etc., is not progressive (proportional to payer's income). Nationally, public tuition has declined over the last 30 years compared to the state and local government overall tax rate.

	Tuition per Student FY89	Taxes per Capita 87	Ratio Tuition to Taxes
Mich	$2,321	$1,757	1.32
Ill	$1,055	$1,610	.66
Ohio	$2,079	$1,479	1.41
Penn	$2,758	$1,437	1.92
U.S.	$1,351	$1,596	.85

Public tuition is a high "user tax" in Michigan compared to the state and local tax rate paid for all government services.

(5) Tuition set as a fixed proportion to state appropriations

The relationship between tuition and appropriations is increasingly being used in funding debates as a means for equitable sharing, a predetermined fixed ratio to consistently establish the tuition level proportional to state support. The ratio set reflects the philosophy of citizens regarding the relative value received by the individual student versus the state and the corresponding responsibility for payment.

TUITION VS APPROPRIATIONS Chart 4
Appropriations per FTE student
Tuition per FTE student
Approp + Tuition = Total Support (OUTPUT)
#6 Tuition Factor = Tuition/Total Support

This chart shows the relationship between Appropriations and Tuition. The sum of the two equals Total Support, defined as an OUTPUT measure. The Tuition Factor #6 suggests the relative importance of student tuition as a funding source compared to appropriations (shown as lower left to upper right diagonal lines). The range of values indicates the importance attached to price access, and differences in state philosophy regarding the balance between the individual and the state in benefits and related payment. For a few states, high values of the Tuition Factor also indicate a large proportion of out-of-state students paying high non-resident tuition.

Michigan (38%), Ohio (38%), and Pennsylvania (40%) all call upon the student and parents to pay an above average (U.S. = 24%) share of the costs of a public education. Illinois at 23% is near the national average. Michigan's ratio indexed to the U.S. average has remained fairly steady since 1979-80.

(6) Tuition set so student or "family effort" balanced with "state effort"

A final way of evaluating the tuition level is through judging the relationship of "family effort" (payment of tuition out of disposable income), to "state effort" (appropriations paid out of tax revenues). Both effort measures reflect payment for education relative to available resources. In the table below, all indexes are relative to U.S. average equal to 100.

	Income/ Capita	Tuition	Family Effort	Tax Rev per Cap	Approp/ Student	State Effort	Ratio Family to State Effort
Mich	100	172	173	110	89	81	2.1
Ill	107	78	73	101	85	84	.9
Ohio	94	154	163	93	81	87	1.9
Penn	99	204	205	90	96	107	1.9
U.S.	100	$1,351	100	$1,596	$4,234	100	1.0

Only three states, Vermont, Delaware and New Hampshire, have higher family-to-state effort ratios than Michigan. This indicates that Michigan places far more strain on family resources versus state resources in funding public higher education than almost all other states.

Total Funding and Access

Referring again to Chart 4, Michigan, Pennsylvania, and Ohio, with a big boost from tuition, have total revenues (upper left to lower right diagonal lines) from appropriations and tuition at or above the national average. Illinois does not require this role from tuition and consequently has substantially below average funding.

Penn	$6,827	27% above
Mich	$6,087	9% above
Ohio	$5.503	1% below
Ill	$4,650	17% below
U.S.	$5,584	

GOALS — #2 College Expansion Ratio
Chart 5 — Output = Approp + Tuition per FTE student

Chart 5 shows the balance obtained in the achievement of two state public higher education goals--access and quality. A measure of access relative to responsibility is the College Expansion Ratio. A measure of the resources which provide quality in public higher education are appropriations and tuition per student.

Michigan has established an excellent balance between funding and access (Ohio has a similar balance but both conditions at a lower level). Pennsylvania emphasizes, funding; Illinois, access. Michigan has few peers--Wisconsin, Maryland, Minnesota--in this balance, no single comparable states that provide goals. New York suggests maximum funding levels, California maximum attendance ratio. New York achieves its funding by highly taxing a wealthy base, an average allocation to education, and a low student payment. California attendance is probably due to low tuition, emphasis on community college attendance, and participation by a wide segment of the population.

Chart 1

Participation Ratio Vs High School Graduates

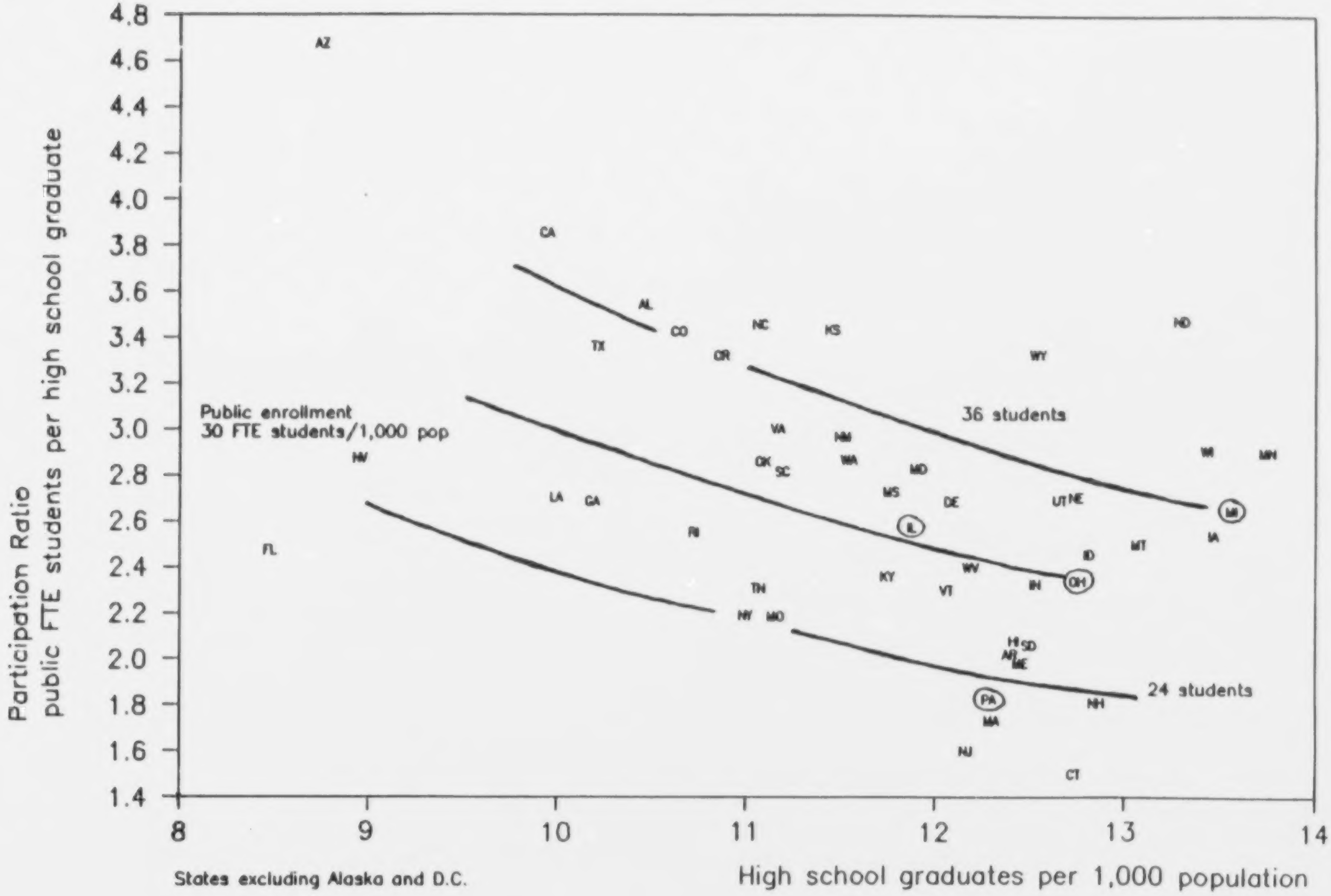
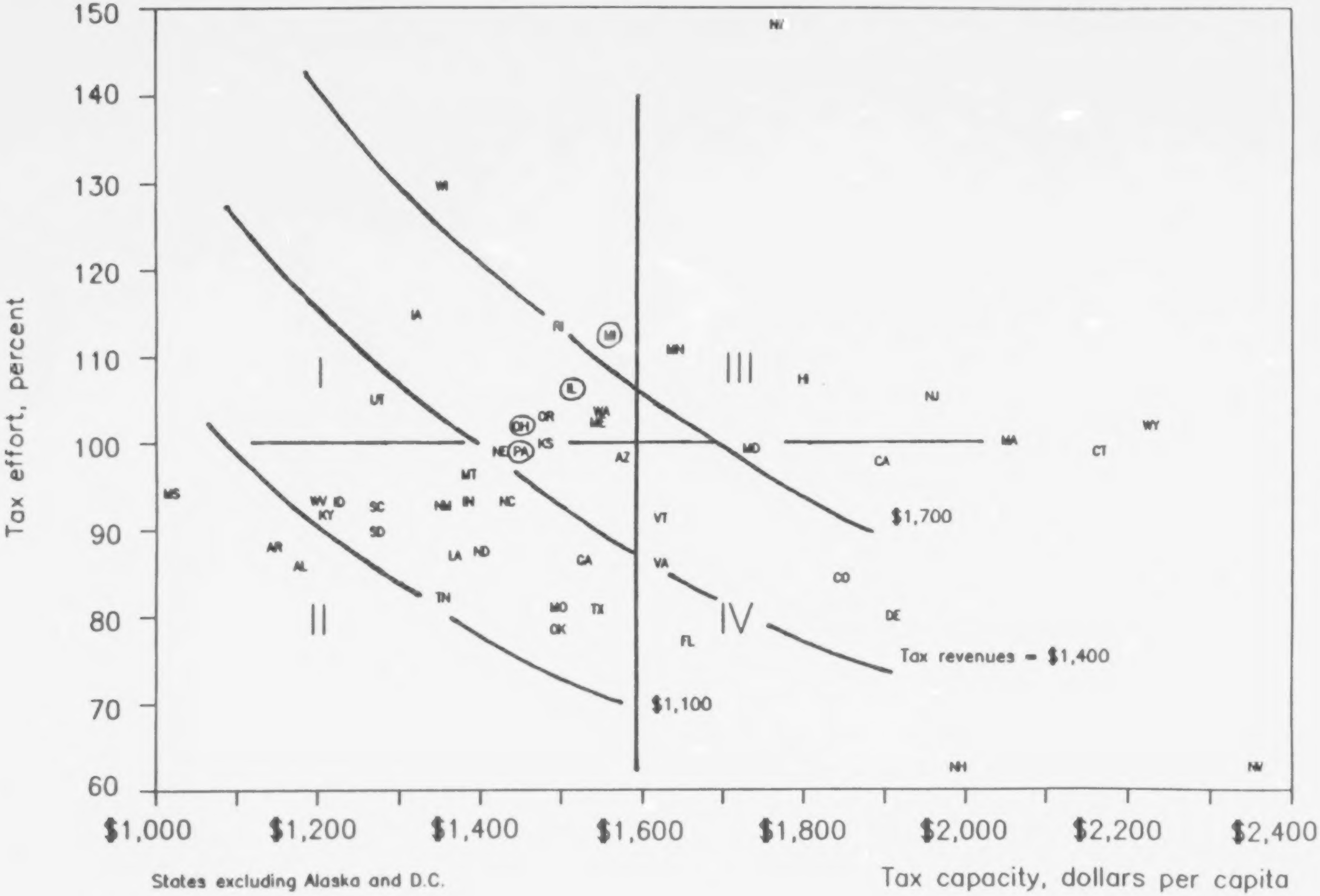


Chart 2

Tax Effort, Capacity, and Collected Revenues

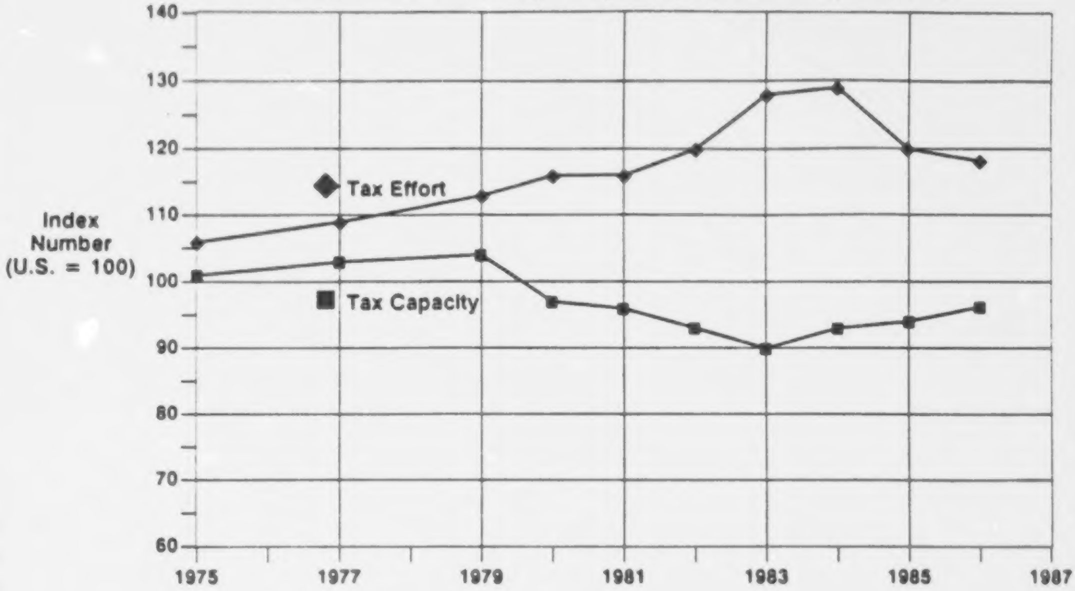


States excluding Alaska and D.C.

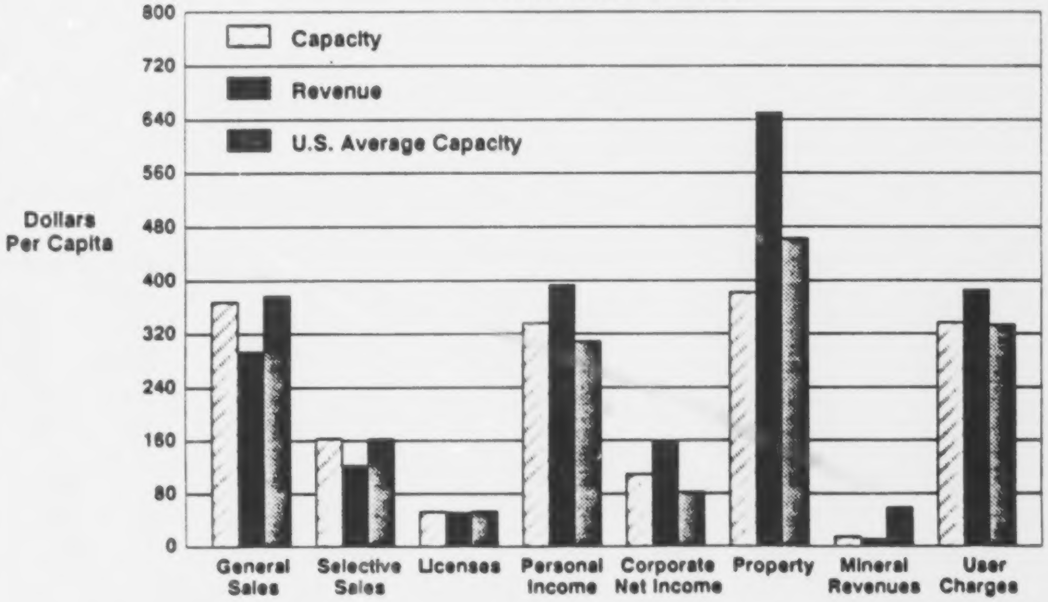
Michigan

1986 RTS Tax Capacity = 96

1986 RTS Tax Effort = 118



Total RTS Tax Capacity and Tax Effort, 1975-86

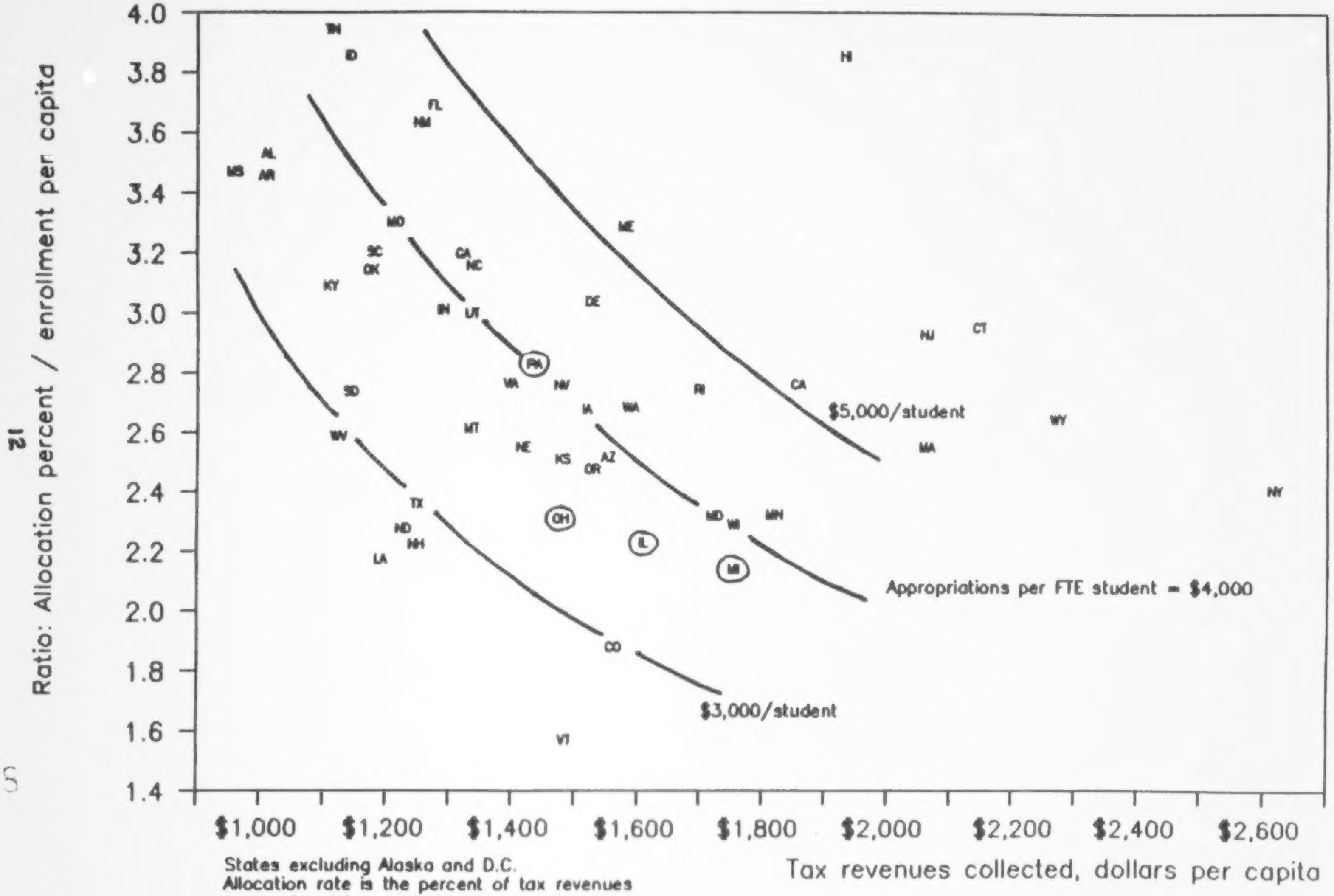


1986 Capacity and Revenue

Selected Revenue Bases

Chart 3

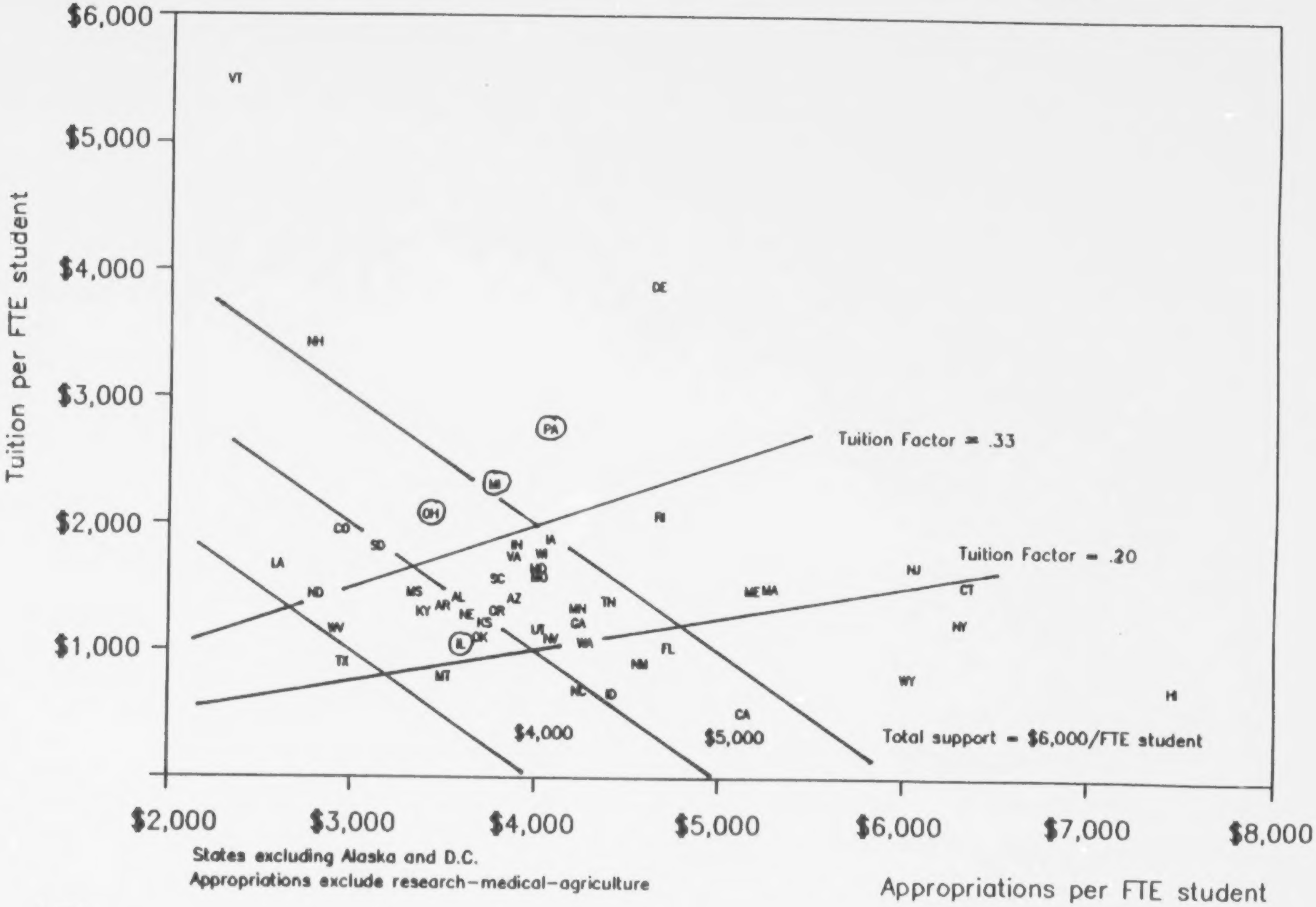
State Funding Effort Vs Tax Revenues



States excluding Alaska and D.C.
Allocation rate is the percent of tax revenues appropriated for public higher education.

Chart 4

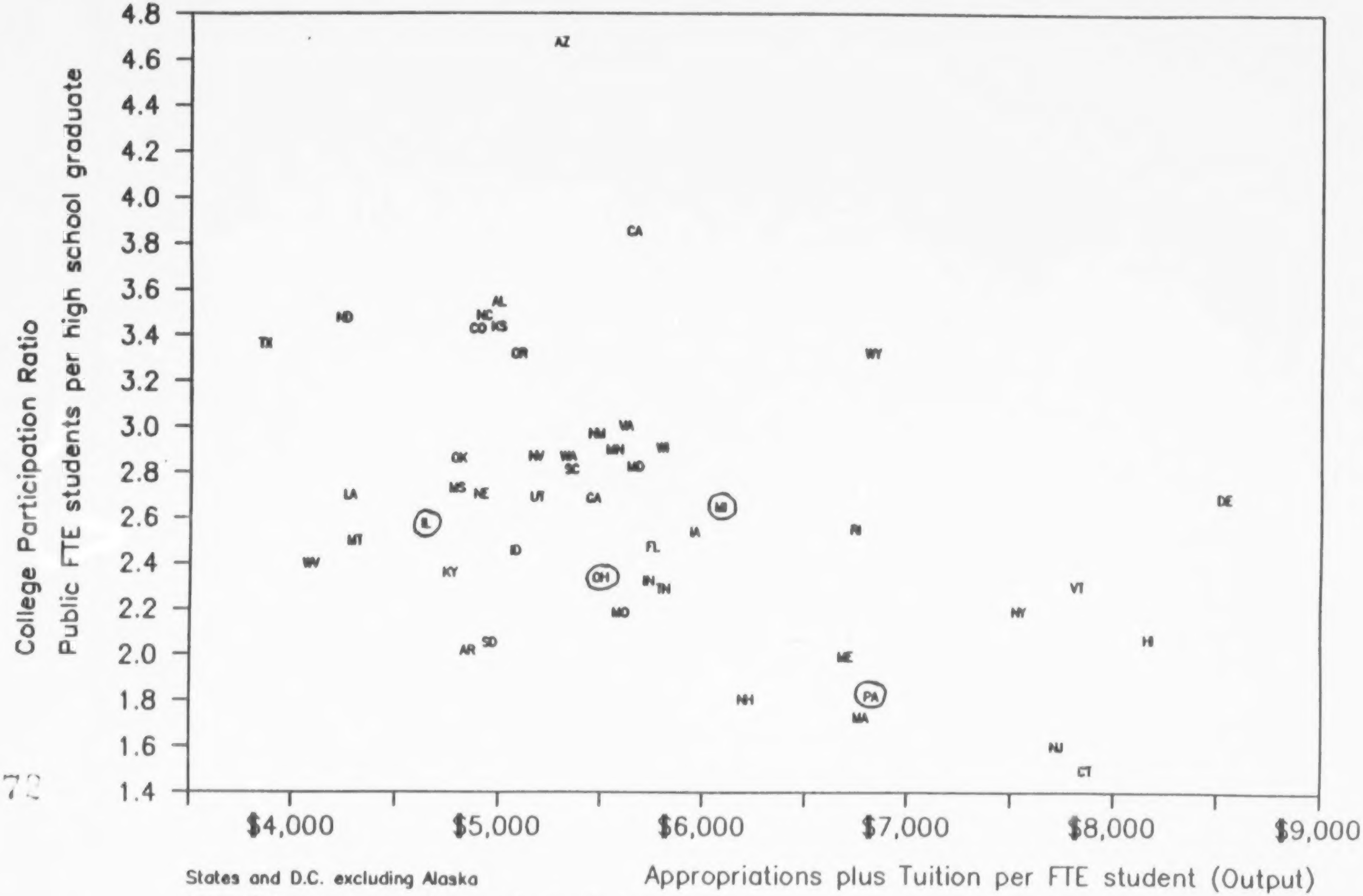
Tuition Vs Appropriations per FTE student



States excluding Alaska and D.C.
Appropriations exclude research–medical–agriculture

Chart 5

Participation Ratio Vs Total Support Per Student



States and D.C. excluding Alaska

Appropriations exclude research–medical–agriculture

Diane Smolen

Diane Smolen, supervisor of the Postsecondary Information Unit of the Michigan Department of Education, presented an overview of community college and public university tuition trends. She also addressed issues of access and affordability and noted trends in need-based student financial aid.

MICHIGAN COMMUNITY COLLEGE
AND UNIVERSITY TUITION

A QUESTION OF AFFORDABILITY

Prepared by the
Michigan Department of Education

for the

Senate Select Committee on Higher Education
to Study Tuition Policy at
Michigan Colleges and Universities

MICHIGAN COMMUNITY COLLEGE AND UNIVERSITY TUITION:

A QUESTION OF AFFORDABILITY?

TUITION AND REQUIRED FEES: TRENDS

In the last decade the average cost (tuition and required fees only) of attending Michigan's public universities for one year has increased by 124%, from $865 in 1978-79 to $1,939 in 1988-89. The question raised often by Michigan citizens about public higher education is one of affordability. For example, if the average cost of tuition and required fees were to increase at the same rate as the average rate of increase from 1980 to 1985, the projected cost associated with attending a university for four years would reach $28,000 by the end of the next decade. Yet the cost of tuition (and required fees) represents slightly less than one-third of the total cost of attending college which, under this scenario, would be close to $100,000 by the year 2000. College costs in addition to tuition and required fees would include room and board, books, equipment fees, course fees, transportation and other incidental expenses. Tuition increases in the community college sector have not been as substantial, increasing 100% from $464 in 1978-79 to $930 in 1988-89. FIGURE 1 shows tuition and required fees for Michigan's public universities and community colleges as well as the independent institutions.

Over the last decade, it appears that two factors have combined to affect the decisions college and universities have made to raise tuition rates and required fees. The first is the high inflation rate of the late 1970's combined with the drastic reduction in state support of the early 1980's.

TABLE I
ANNUAL PERCENTAGE CHANGE:
TUITION, REQUIRED FEES
AND INFLATION

YEAR	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89
UNIV	9.3%	11.8%	14.1%	19.0%	9.5%	12.1%	6.6%	0.5%	1.9%	5.5%	10.1%
CC	5.0%	6.4%	4.6%	20.8%	10.8%	7.6%	5.3%	4.9%	3.2%	3.6%	8.9%
CPI	12.7%	15.8%	9.3%	4.0%	2.8%	3.6%	3.4%	1.4%	3.0%	3.7%	4.9%

TABLE I illustrates the double digit inflation of 1979 and 1980 and the subsequent increases in tuition and fees in the early 1980's. The current administration has encouraged public universities, and to a certain extent, community colleges to hold tuition and fees at or near the annual rate of inflation. From 1980-81 until 1983-84, annual tuition and fee increases were well above inflation. Beginning in 1984-85, tuition and fee increases have been much more moderate. However, the large annual increases in tuition and fees during the early 1980's have kept the cumulative increase in tuition and fees high when compared with the cumulative increases in inflation in spite of the small annual increases in the last four or five years. (See Appendix)

UNDERGRADUATE TUITION AND REQUIRED FEES

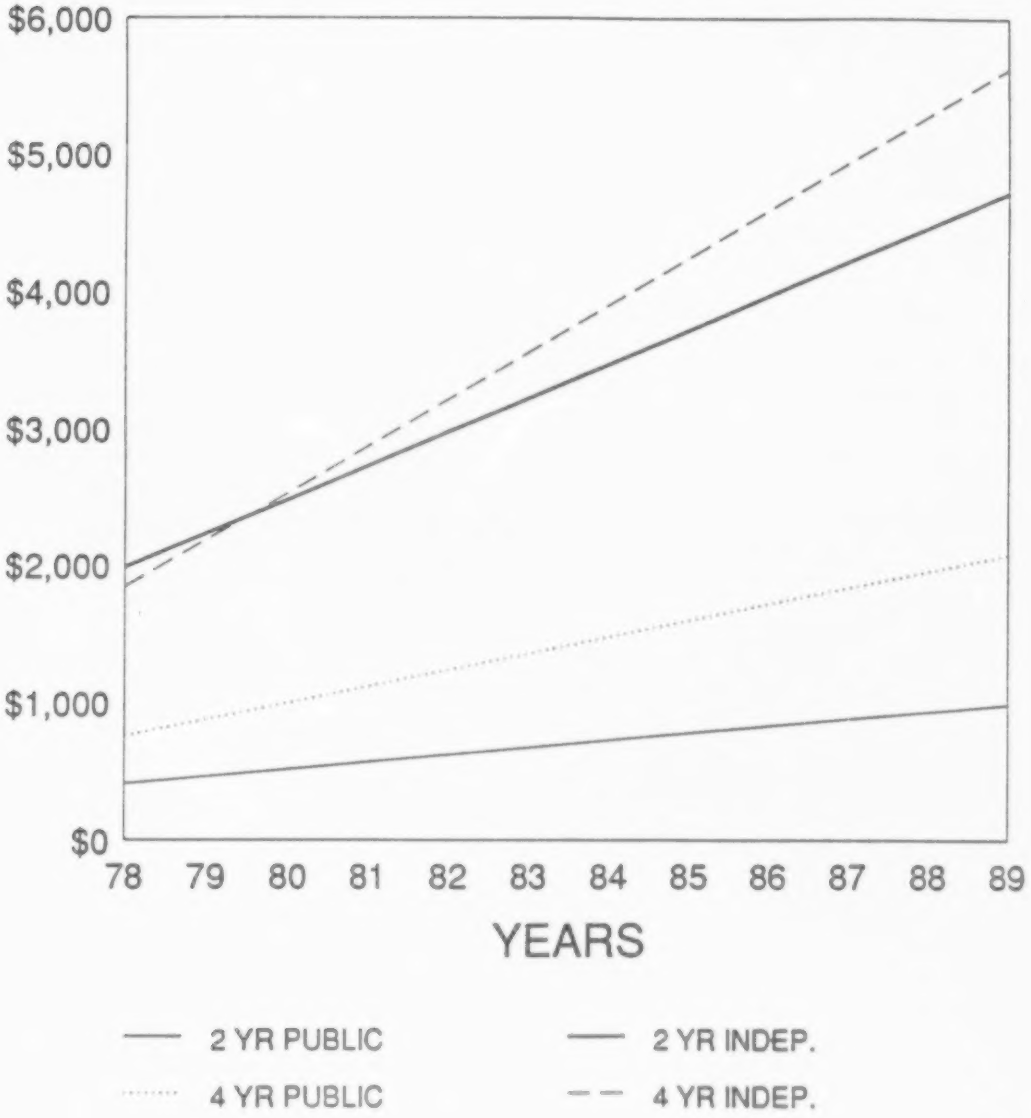


FIGURE 1

TUITION RATES AND STATE APPROPRIATIONS

From the institution's perspective increases in tuition rates (and required fees) have provided the increased revenues necessary to balance the budget, compensating for severe reductions in state appropriations during the early 1980's. This viewpoint is not unique to Michigan institutions. A national study (SHEEO, 1988) employed a regression analysis to determine the nature of the relationship between state appropriation increases and increases in tuition. The analysis indicates that the relationship is negative and significant for a majority of states. Overall, institutions have increased tuition when appropriation increases were lower and smaller increases were instituted when appropriations were higher.

FIGURE 2 shows the relationship between the cumulative percentage increase in state appropriations and the cumulative percentage increase in tuition and fees between fiscal year 1978 and 1989 for the public universities. From 1978 through 1980, the increases were similar. Beginning in 1981, when state appropriations were reduced, tuition and required fees increased substantially until 1985 when the Governor's tuition restraint practice was implemented.

In the community college sector (FIGURE 3), the cumulative increases in state appropriations, beginning in fiscal year 1978, increased more than the increases in tuition and fee costs until 1980. After 1980, as state appropriations were reduced, increases in tuition and fee costs increased at a greater rate than state appropriations. Beginning in 1984 tuition and fee increases more closely approximated the increase in inflation.

The impact of inflation and the Executive Order Reductions is most apparent when adjustments for inflation are incorporated using the Higher Education Price Index. (The prices of the goods and services colleges consume have doubled in the last ten years.) In the community college sector the buying power of the state appropriation has continually declined since 1976 and in spite of a substantial increase in 1987 had not returned to the level held in 1976. Although university revenues are greater in 1987 than in 1980, state support has not yet returned to the 1980 level, emphasizing the role tuition has played in balancing budgets.

ACCESS

Of concern at the state level is the impact of tuition increases on access to higher education. Low or controlled instate tuition as an approach to postsecondary education fits well with policies promoting access. A policy controlling tuition may encourage first generation college students, minorities and others not aware of the myriad of financial assistance options available.

Policies supporting high tuition practices would suggest that the institutions be free to charge what the traffic will bear. High tuition combined with adequate financial assistance places the cost of postsecondary education on the beneficiary, when the family has sufficient income. State resources are reserved for students whose family income is not sufficient to cover tuition costs. Tuition restraint generally assumes increased state support which spreads the cost of postsecondary education across the state. Education becomes a state resource, an investment by the state in each student (irrespective of family income) and in the state's future.

TUITION AND FEES
COMPARED WITH
STATE AID

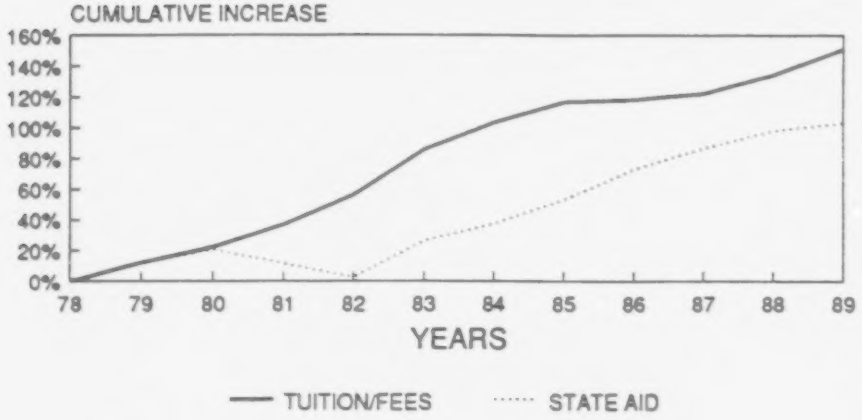


FIGURE 2 PUBLIC UNIVERSITIES

TUITION AND FEES
COMPARED WITH
STATE AID

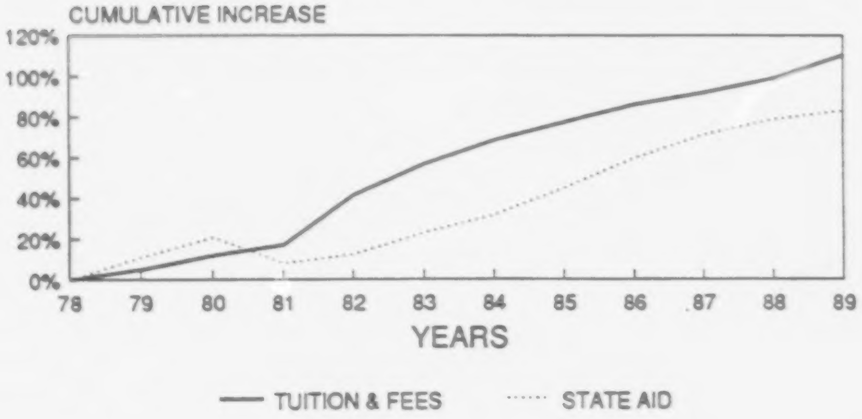


FIGURE 3 COMMUNITY COLLEGES

TUITION AND FEES
COMPARED WITH DISPOSABLE INCOME

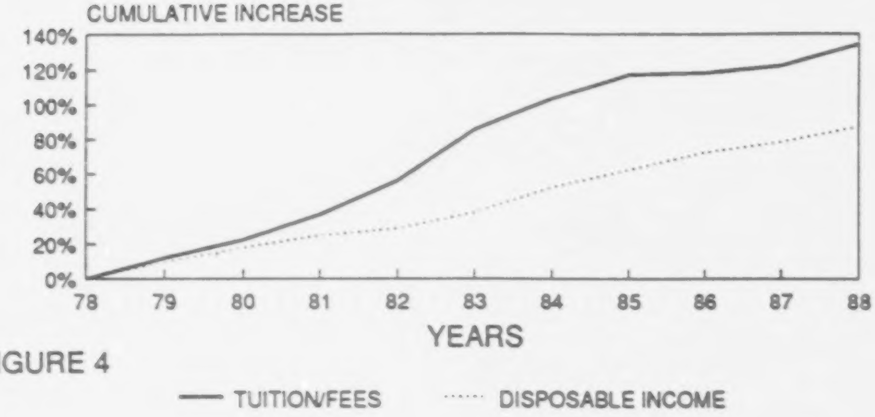


FIGURE 4

PUBLIC UNIVERSITIES

TUITION AND FEES
COMPARED WITH DISPOSABLE INCOME

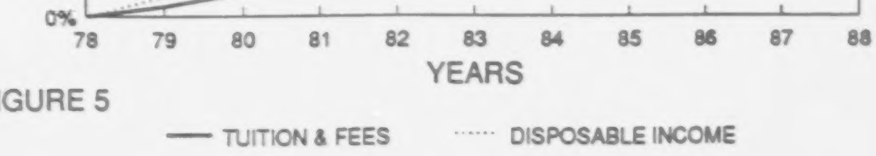


FIGURE 5

COMMUNITY COLLEGES

AVERAGE TUITION PUBLIC COLLEGES U.S. & GREAT LAKES

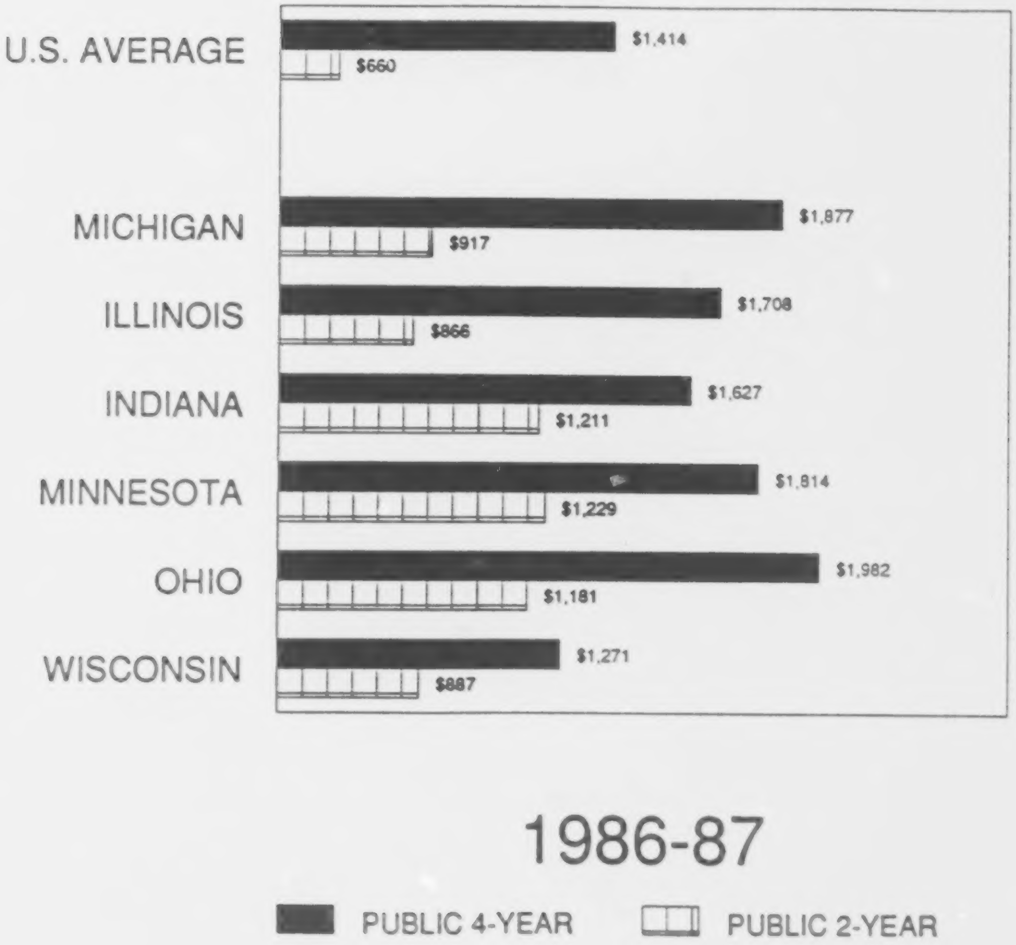


FIGURE 6

decade, the source of funds supporting need-based financial assistance for university students has shifted dramatically away from federal funds to Guaranteed Student Loan funds. (FIGURE 7) This policy, which was initiated at the federal level, compounds the issue of affordability by providing students with the option of delaying educational costs. The state's share as well as the institution's share of funding declined slightly over the same time period.

In the community college sector a larger percentage of need-based assistance comes in the form of scholarships and grants (67%), as a large number of community college students are eligible for Pell Grant awards. In 1986-87 need-based assistance totaled $62,325,692; 26% was allocated in the form of loans and 7% as work study. FIGURE 8 shows the increased dependence upon the Guaranteed Student Loan program as a source of assistance and the decreasing availability of federal funding for the university sector.

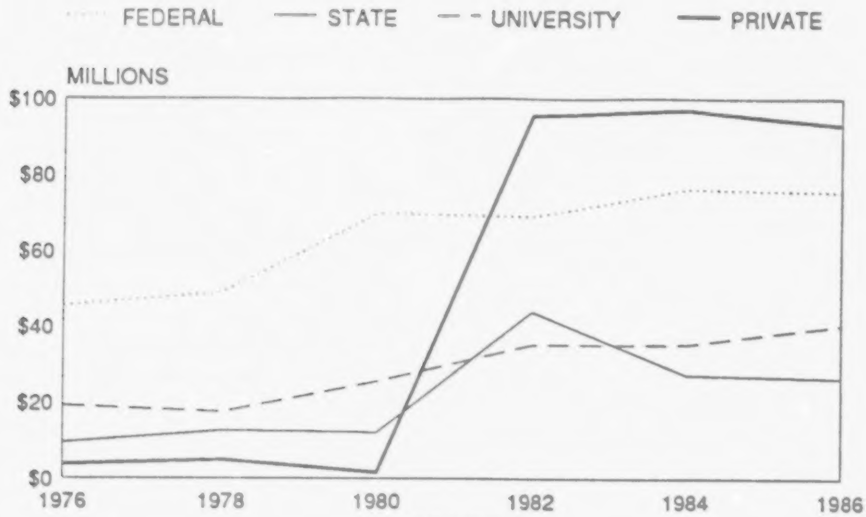
Although need-based student financial assistance has become a viable means of reducing the cost of attending postsecondary institutions, two issues remain. First, two-thirds of the university students are not involved in a university's need-based aid program. Among them may be an increasing number of minority students, as the number of minority aid applicants has declined. This does not mean that these students aren't "needy". Secondly, the primary source for need-based assistance is the Guaranteed Student Loan program, which continues to place the burden on the student and may well affect the choice of major field and future occupation.

SUMMARY

The data presented suggest that tuition rates and required fees have increased over the last ten years due, in large part, to reductions in state appropriations and inflation. It appears as though enrollments have not been adversely affected by increasing costs since enrollment have continued to increase and have not declined. This may have occurred because of the increased availability of need-based financial assistance programs which effectively reduce the net cost of attending colleges and universities. However, the concern regarding access remains.

The relationship between minority enrollment declines and increasing tuition remains to be examined. In addition, the continuing shift in need-based financial assistance from scholarships and grant sources to loans may at some point serve as a deterrent to college for low socioeconomic groups. The nature of this relationship could affect enrollments in the long run. High tuition practices will continue to place the burden of financing postsecondary education on the student.

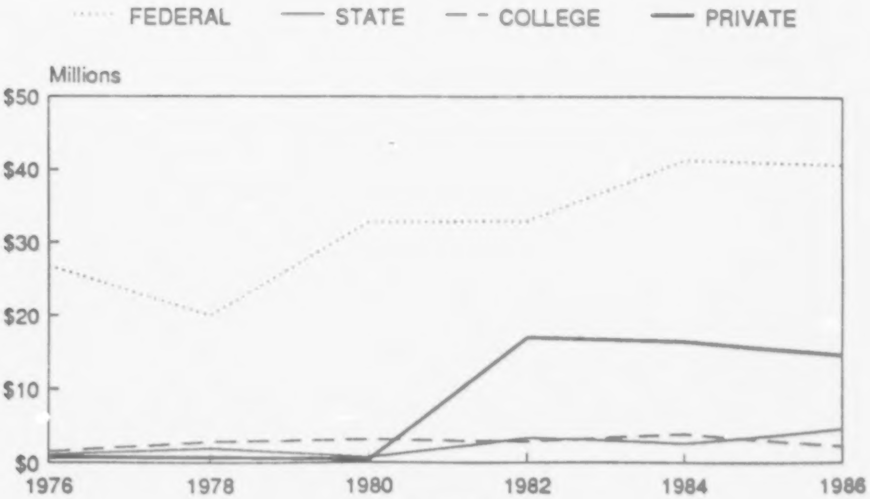
Currently there is not a state policy on tuition which limits tuition revenue to a predetermined proportion of instructional expenditures or a proportion of educational and general expenditures as in some states. In the absence of policy, tuition restraint has been implemented. Yet tuition restraint implies strong state support, a commitment to access and educational opportunity as well as the view that education be treated as a state resource, an investment in the future. That investment requires adequate financing. That may mean increased appropriations, funding for support services, expanded financial assistance or perhaps a more innovative option.



PUBLIC UNIVERSITY
STUDENT AID*

* NEED-BASED

FIGURE 7



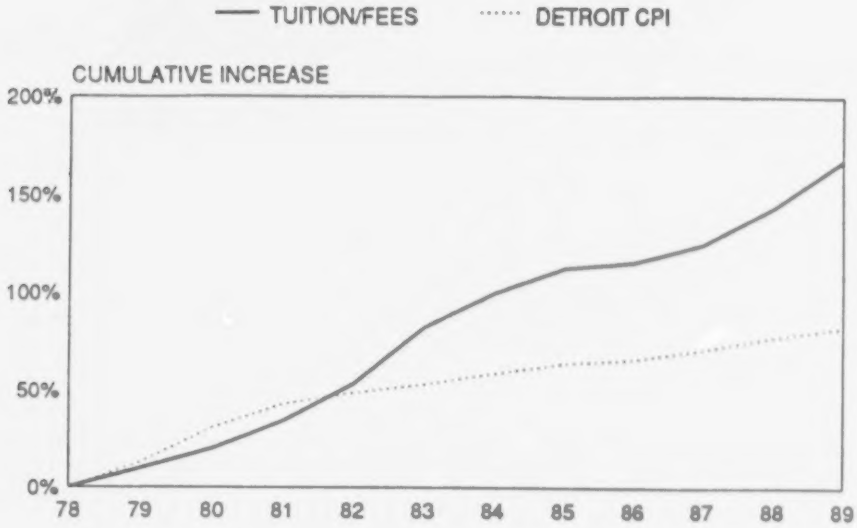
COMMUNITY COLLEGE
STUDENT AID*

*NEED-BASED

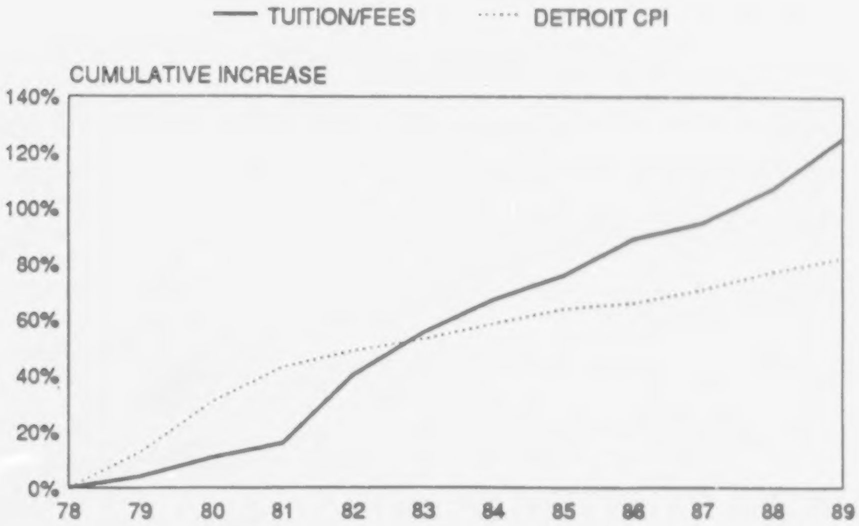
FIGURE 8

APPENDIX

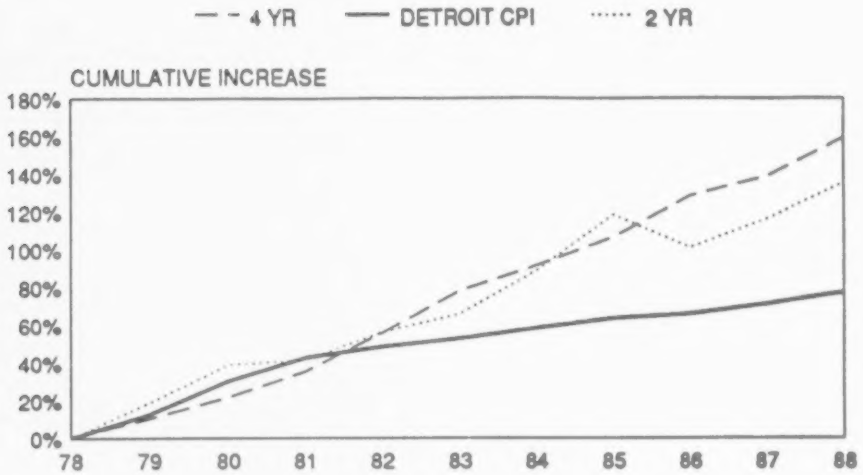
PUBLIC UNIVERSITIES



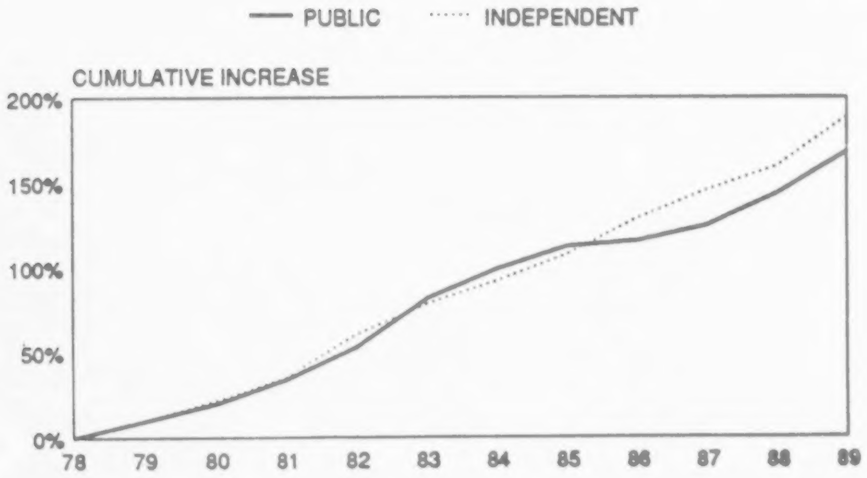
COMMUNITY COLLEGES



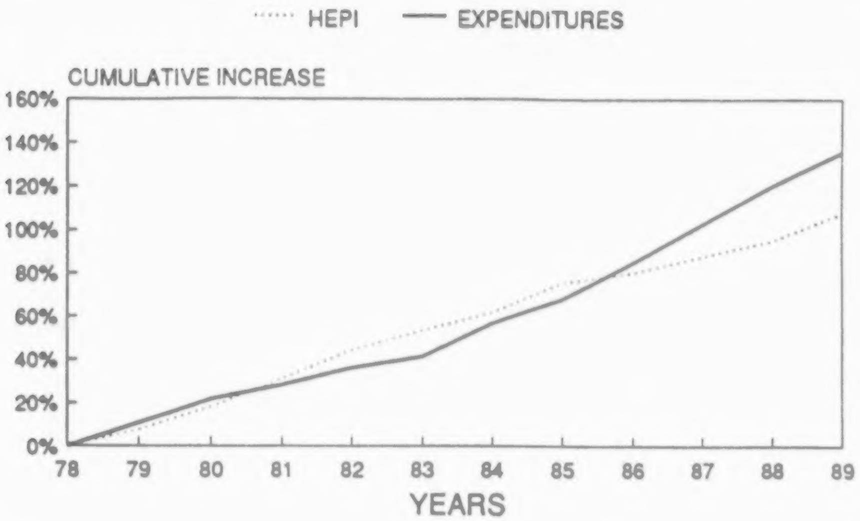
INDEPENDENT
COLLEGES



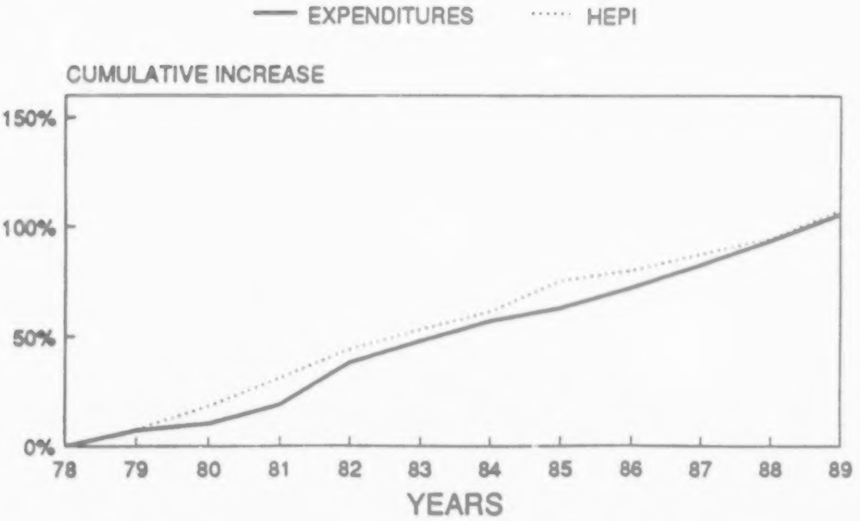
TUITION AND FEE
INCREASES



PUBLIC UNIVERSITIES



COMMUNITY COLLEGE



Marna Whittington
and
Robert Zemsky

Marna Whittington and Robert Zemsky, of the Pew Higher Education Research Program, discussed on the need for universities to change their processes. They recommended that universities set tuition early in the budget cycle, grow by substitution, and choose among competing missions. They also suggested that legislatures examine university expenditures and create a trust account to provide matching funds for universities that generate internal cost savings.

September
1989
Volume 2
Number 1

P—O—L—I—C—Y PERSPECTIVES

The Higher Education Research Program
Sponsored by The Pew Charitable Trusts

Double Trouble

It happened again last spring. Only after the president's recommendation of another 8.5 percent increase in tuition had been formally adopted did this trustee emeritus give voice to his frustration: "How long," he asked, "before the day of reckoning? For how many more years will tuition have to increase faster than inflation? Is it not possible to achieve savings—ever? What special privilege allows the college to abandon good business practices?"

One by one his fellow trustees lent their voices to the chorus. Some were willing to absolve the college of direct blame for an economic reality that drove costs and hence prices ever higher. Others were not so sure. The college, they argued, must take individual responsibility for its finances, even if that meant telling the faculty they would have to make do with less. All were agreed, however, that something needed to be done—the sooner the better—about higher education's price spiral.

This drama is being played out with increasing frequency across American higher education. What is emerging is a potent array of troubled friends and persistent critics:

- disappointed trustees;
- frustrated parents, frightened that the promise of a college education is being priced beyond their reach;
- a generation of students openly skeptical about whether the degrees they seek are worth the stated price;
- public officials who are learning that just saying no to tuition hikes makes for eminently good politics.

In this context no institutional explanation of costs and prices ever proves satisfying. Three years have passed since Stanford's president Donald Kennedy could wistfully ask in a speech to alumni, "How can we look so rich, yet feel so poor?" and then safely answer by decrying the high cost of excellence that threatened to make paupers out of even the best-endowed universities. Other presidents have suggested other answers: the declining value of federal student financial aid; new health and safety regulations that add costs without educational benefit; the addition of new, sometimes vocationally relevant curricula to the traditional liberal arts and sciences offerings; the costs of computing and of maintaining library collections; the need to remain competitive, to restore the value of faculty and staff salaries, and to make the repairs to physical plant that were postponed in the 1970s.

The public has largely dismissed all such explanations, regardless of their individual merit, as *post facto* rationalizations. In an age of sound-bytes, the lasting impression is not of the individual college president explaining costs but of William Bennett proclaiming that "I have never seen a greater interest in *money*—money, cash, bucks—among anybody."

Reading the Vital Signs

The caricature that has emerged of higher education is of an industry that, having been put through a ringer in the 1970s, recovered in the early 1980s and then began to grow rich and even greedy as the decade wore on. Long after the need had passed to catch up economically, the story goes, colleges and universities continued to increase tuitions faster than the rate of inflation, exhibiting more concern about their own prosperity than about either the quality of their educational products or their ability to reach out to the historically underserved in America.

This focus on tuition increases creates an impression of prosperity, even greed, that simply does not fit the facts.

However keen and politically attractive this portrait becomes, it distorts the economic reality faced by many institutions of higher education in the 1980s. In order to chart and compare rates of growth for individual colleges and universities, we have defined five conditions that are generally present during times of economic expansion:

- for private institutions, substantial growth in tuition revenues made possible by high tuition rates and annual increases that dramatically exceed the underlying rate of inflation, by substantially more applicants than spaces in the freshman class, and by an ability to maintain the principle of financial aid based solely on need;
- for public institutions, substantial increases in state appropriations that exceed the underlying rate of inflation, coupled with growth in tuition revenues made possible by either increased enrollments or tuition increases dramatically exceeding the underlying rate of inflation;
- substantial endowments whose values increase steadily in real terms;
- substantial federal research funds with annual increases that consistently exceed the underlying rate of inflation;

and finally, one measure that reflects how such institutions spend their revenues:

- steady increases in the size of the standing or tenure-track faculty, and a sustained real increase in average faculty salaries.

Any institution that enjoyed all of these conditions can be said to have experienced boom times.

We present in the accompanying *Profiles* data that reflect the financial conditions of seven categories of institutions, including state colleges and universities; public and private research universities; and three types of private liberal arts colleges. These data tell us that a majority of institutions grew in real terms over the course of the 1980s—though clearly some grew much faster than others. Public institutions in particular lagged, both in terms of general revenue growth and increases in the size of their faculties. Most institutions increased their tuitions at a rate substantially above that of inflation. A majority of public institutions also benefited from real increases in state appropriations, though the new funding amounted to less than what the higher priced private colleges and universities were realizing from steadily rising tuitions and stable enrollments. The data, then, indicate substantially differentiated experiences across institutional types; while many shared in the general prosperity that characterized the nation's economy after 1982—and some can be said to have enjoyed boom times—substantial numbers of institutions simply did not.

What emerges is a much more varied picture of collegiate finances than that painted by higher education's critics. Their focus on tuition increases creates an impression of prosperity, even greed, that simply does not fit the facts.

What's Good for the Goose . . .

The real problem within almost all colleges and universities is not avarice but the fact that so many current practices run counter to two basic trends that are shaping the American economy: first, the abandonment of cost-plus pricing; and second, a new willingness to reduce employment in order to make an enterprise more competitive and hence profitable. When a corporate executive turned college trustee laments, "I wish my college was more business-like," she is not likely to be talking about the bottom line, but rather the college's ability to get more out of less and to set prices that demand aggressive cost-cutting. She wants her alma mater to be leaner, if not actually meaner.

That logic is being applied to the health-care industry. A decade ago it was the nation's hospitals, clinics, and physicians who were being labelled arrogant and economically irresponsible in the absence of incentives to constrain costs. The more tests that were performed, the longer a patient's hospital stay, and the greater the number of follow-up visits to a physician's office, the larger the reimbursements, and the more robust the providers' revenue streams. It was cost-plus pricing run amok.

Then, in the late 1970s, with the federal government and other third-party payers providing the political and economic muscle, there was a general recasting of the rules by which providers earned their revenue. Today, experts in the field frequently refer to a general "tightening down" on the health-care industry, and the likelihood that the "screws would be made progressively tighter" as the decade advanced. The most financially successful providers become those who have reduced costs by reducing staff and lengths of stay. Not surprisingly, many of the providers who have failed to adjust to the new pricing system have been academic health centers, in part (and to their credit) because they bear a larger share of the costs of indigent care, and in part because as academic institutions they have found it particularly difficult to cut costs either by limiting services or reducing staffs.

Ask faculty chairs at almost any institution what they want most; their answer will be "more faculty," regardless of the size of the department, the scope of its curriculum, or the demographics of its current members.

Among the principal maintainers of cost-plus pricing today are the government and colleges and universities. While virtually all other sectors have faced the need to become more efficient, these two segments stand as holdovers from another age. Many will object to the counterposing of these two extremes—to be either more bureaucratic or more business-like. Higher education has roots, after all, in the great monasteries of the Middle Ages, which were founded more for the employment of monks (who were frequently scholars) than for the production of goods or the delivery of services.

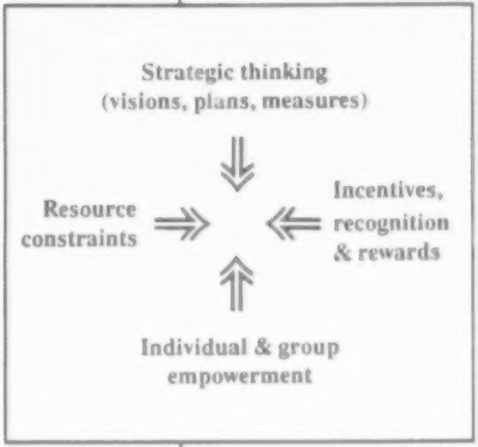
Ask faculty chairs at almost any institution what they want most; their answer will be "more faculty," regardless of the size of the department, the scope of its curriculum, or the demographics of its current members. Make the question hypothetical: "If you could spend your department's money any way you and your colleagues chose, rather than follow the dictates of the administration, what budget cuts would you make and how would you spend the savings?" When, at Hank Levin's suggestion, we posed that question to more than 200 department chairs at a sample of selective undergraduate colleges and research universities, nearly half replied that their budgets were now so constrained that the question was without meaning. Among those willing to speculate about possible trade-offs, only one chair suggested he might function with fewer tenure-track faculty in return for more departmental research money and secretarial support.

If the nation has an obligation to nurture higher education, it also has a right to ask, "What business are you in?" and to expect colleges and universities to be more business-like – more efficient, more focused in their investments.

While administrators are not immune from the urge to swell their ranks—with more advisors, technicians, assistants, consultants—the most visible administrative investments are in new buildings. Those in charge of our learning communities want to make a difference in their institutions; they want to leave their mark. Historically, there has been an institutional imperative to construct buildings—new dorms, student centers, libraries, and state-of-the-art research laboratories. Colleges and universities, like their medieval ancestors, often assume that their academic and financial health are reflected in the quality and style of their buildings.

While these aspirations lend themselves to ridicule by higher education's critics, they need not. The nation has invested substantially in its colleges and universities. As we observed in the September 1988 issue of **Policy Perspectives**, Americans continue to enjoy the most envied, most copied system of higher education in the world. It is not wrong to note with pride that higher education reflects much of what makes this country great—its commitment to intellectual liberty and scholarly freedom, its willingness to invest in its young, the importance it attaches to merit rather than social class, its commitment to reach out to the underserved and the disadvantaged. Institutions of higher learning both exemplify and contribute to American ingenuity. As such, colleges and universities need to be nurtured as well as sustained, their prosperity an

Gaining Productivity


Strategic thinking
(visions, plans, measures)
Resource constraints
Incentives, recognition & rewards
Individual & group empowerment

It is not easy for colleges and universities to increase productivity. The incentives in an academic culture point toward improving quality; there are few obvious incentives for focusing on efficiency and cost-effectiveness. It is possible, however, for institutions to contain costs. Under the right conditions, cost containment can trigger increased productivity, thereby helping to achieve improvement in quality.

I believe that there are four conditions necessary for improving productivity:

Resource Constraints

Resource constraints can be the driving force behind an institution's decision to increase efficiency and productivity. Most educational leaders press hard to enhance quality, but without the effect of resource constraints there is no incentive to consider cost-effectiveness in relation to quality. It is no accident that institutions that regard themselves as relatively well-off financially find it hard to increase productivity, even though they have some of the best human and technological resources for tackling the problem.

Individual and Group Empowerment

Productivity improvement depends on the initiatives and skills of faculty and staff on both the individual and group levels. They are the ones who are the most familiar with the work process and who will implement any day-to-day changes. Faculty and staff must be empowered to lead the institution through its difficult choices. Empowerment means believing that one *can* and *should* make a difference and possessing or having access to the skills and resources needed to do the job.

Incentives, Recognition, and Rewards

Incentives and rewards can be offered in the context of tight resource constraints. In fact, they do not need to be monetary or even tangible. They should, however, be devised to encourage workers to think positively about productivity. It is very important to avoid inadvertently creating incentives that undermine productivity. Personnel reductions that are directly attributable to productivity improvement often decrease the potential for additional gains. Recognizing and celebrating a good result or a good effort is also essential. For example, school administrations should recognize faculty efforts to develop new and more productive teaching methods when setting salaries and making promotion and tenure decisions.

Strategic Thinking

Finally, the institution's leaders must engage in strategic thinking about productivity improvement. They must define what they mean by gaining productivity and make clear that it is an important part of their vision for the institution. They must develop plans and programs for embedding the vision in the organizational culture at the working level. They must also provide the concepts and support necessary for empowering people to develop and implement productivity-enhancing initiatives. They must arrange for the right incentives, recognition, and rewards and make sure there is follow-through across the organization.

All four conditions are necessary. Without incentives there will be few faculty and staff initiatives. Without strong conceptual leadership, those initiatives will lack focus, coherence, and staying power. Without faculty and staff initiatives, central visions and plans will stagnate because they lack connection to the actual work process and saliency for the people who would have to implement change. Finally, without a clear and binding resource constraint, the drive for quality and the incentives, recognition, and rewards associated with quality will dominate the objective of gaining productivity.

William F. Massy

optimistic reflection of the general mettle of the society they serve.

Those who are inclined to put higher education on a diet in order to curb its appetite should understand that the most likely result will be thinner rather than healthier institutions.

But many colleges and universities have also become multi-purpose institutions, no longer simple academies of higher learning but expansive and expensive bureaus providing a host of services ranging from psychological counseling to child care, hotel accommodations, and the most sophisticated health care. If the nation has an obligation to nurture higher education, it also has a right to ask, "What business are you in?" and to expect colleges and universities to be more business-like—more efficient, more resourceful, more focused in their investments.

Fightin' Words

Whatever the logic and the imperative for change, individuals at the institutional level can be expected to delay, to question, to insist that they will contribute their fair share, but only if everyone else is prepared to make equal sacrifices. Cost reductions in colleges and universities are ordinarily achieved by cutting everyone a little, rather than by making fundamental changes in the organization. Those who are inclined to put higher education on a diet in order to curb its appetite should understand that the most likely result will be thinner rather than healthier institutions. Colleges and universities survived the 1970s largely by deferring maintenance, limiting capital construction, delaying the acquisition of new technology, making across-the-board cuts in current-expense budgets, and achieving staff reductions largely through attrition. Once times got better, the impulse almost everywhere was to restore what had been lost. Institutions hired staff to carry out functions such as student advising, which faculty had previously performed. New layers of administrative bureaucracy were created, and new capital projects undertaken. Most of higher education has emerged from the economic traumas of the 1970s sadder, but not fundamentally different.

Changing higher education's cost function requires first and foremost that colleges and universities confront that habit of mind that so easily rewards productivity either by extending the scope of the enterprise or encouraging the scholarly pursuits of individual faculty members. Too often increased revenues have been expended in the name of quality to reduce teaching loads across the board, to provide additional support (usually in the form of teaching assistants and graders), to shift responsibility for advising and other student activities to professional staff, and to appoint additional colleagues to share the responsibility for teaching both specialized and required courses. The lack of consistent data on faculty teaching loads over the past two decades in American colleges and universities lends credence to a strong anecdotal sense among institutional leaders that teaching loads have declined in this period. The American professoriate has studied the continuing productivity of every sector of the economy except its own. As Harold E. Yuker observed in *Faculty Workload: Research, Theory and Interpretation*, "In general, faculty . . . feel that they are above workload studies, which have connotations of Frederick Taylor's assembly line studies of time and motion."

We believe that a greater sense of academic responsibility will also yield a greater sense of shared fiscal responsibility—that colleges and universities will come to view their resources as belonging more to the institution as a whole and less to schools, departments, or faculty.

The same quest for improvements at the expense of productivity can be seen in administration. Investments in new facilities and programs are usually funded through a combination of cost-plus pricing, private gifts, and public appropriation, not by savings generated by increased productivity. Only when an institution enjoys substantial real growth in revenue is it likely both to benefit individual faculty and to make selective investments in new academic programs.

In the May 1989 **Policy Perspectives,** "The Business of the Business," we argued that the faculty must take collective responsibility for the curriculum. There has to be a greater sense of sharing as well as a new willingness to combine efforts and to merge individual enterprises. What one member of the faculty teaches needs to be better linked to what his or her colleagues are teaching. Colleges and universities need to understand what it is they do best and then to invest in being the best at what they do.

We believe that a greater sense of academic responsibility will also yield a greater sense of shared fiscal responsibility—that colleges and universities will come to view their resources as belonging more to the institution as a whole and less to individual schools, departments, or faculty.

We realize that these are, in the idiom of Hollywood westerns, "fightin' words." Most faculty see themselves as overworked and under attack. At best, they enjoy average levels of compensation for highly skilled professional efforts in an age when weighty compensation packages in the corporate sector are increasingly common. Many faculty still teach at night to make ends meet, and there remain substantial numbers of institutions that do not provide travel and research funds. Faculty are constantly being pushed to publish. All the while they are expected to be better, more concerned, and caring teachers.

No faculty member can be expected to fulfill all roles—teacher, research scholar, committee member—with equal success. The institutional challenge remains one of defining and communicating individual faculty roles more clearly, according to what each faculty member does best.

A Window to the 90s

While complex organizations change slowly—and frequently not at all—the potential for change increases dramatically when a dominant cohort of managers and leaders retire or are replaced at roughly the same time. Such an opportunity and challenge will be presented soon to American higher education. By the year 2010 most of the teachers and scholars recruited to higher education in the heady days of the 1950s and 1960s will be gone. The impact of the departure of this faculty cohort will be compounded by the reduced number of bright students who sought teaching and research careers during the depressed academic markets of the 1970s and early 1980s.

The immediate effect of having to recruit large numbers of new faculty from a diminished pool of Ph.D. candidates will be to drive up costs at those institutions prepared to pay a premium for the best available scholars. At research universities and selective colleges with the financial means to compete, the temptation will be to make faculty more independent by giving them new resources with which to pursue their scholarly interests. Major institutions that seek to hold the line—by declining to reduce teaching loads further, offer more graduate assistant support, or increase research funds for new equipment and materials—will likely find themselves outbid in the competition for new faculty and fighting a losing battle for the retention of current faculty being wooed away by peer institutions.

It is possible that those faculty members who have benefited most from higher education's current practices will, in their last decades of service, lead their institutions into thoughtful reviews of the relationship between teaching and research and of the funding and status of each.

In time, however, the increased demand for quality teachers and researchers will enable institutional leaders to make major adjustments in how they deliver instruction. Increasingly, colleges and universities will turn to technology as well as to part-time and adjunct faculty, many of whom will not have been trained as research scholars. Institutions will learn from necessity how to make do with fewer faculty. The critical issue—the one requiring both institutional resolve and careful planning—will be the ability of colleges and universities to improve the quality of their enterprise, even as they better align their costs and aspirations.

With necessary encouragement, it is also possible that those faculty members who have benefited most from higher education's current practices will, in their last decades of service, lead their institutions into thoughtful reviews of the relationship between teaching and research and of the funding and status of each. A concern for the continued well-being of the profession itself should induce some to impose long-range reform. Senior faculty have a way, when encouraged, of asking tough questions and posing difficult answers. It has happened in other industries—senior employees agreeing to work-rule changes and givebacks that affect their successors more than themselves.

Another Way

The immediate prospect, however, is for more shouting about prices, which will lead to less public confidence in the nation's colleges and universities and a greater sense of defensiveness on the part of higher education's leaders and spokesmen. We doubt whether this rhetoric will be worth the price. There is little evidence that jawboning (the economic equivalent of institution-bashing) ever changes either prices or costs. If rhetoric alone could make higher education less expensive, then William Bennett's tenure as Secretary of Education would certainly have seen a substantial reduction rather than an increase in the average price of a college education.

The danger is that public agencies and officials, having grown weary of the debate, will use their legislative and regulatory powers to squeeze higher education by limiting the industry's ability to increase revenues. Higher education could then expect policies that limit tuition increases through legislation, regulation, and board decree; that freeze state appropriations at current levels; that further reduce the general availability of federal student aid; that make institutions absorb a greater share of their faculty and administrative costs occasioned by federal research grants and contracts; and that tax certain revenue streams on which many private institutions rely.

It is a future no one should welcome. Across-the-board cuts in response to declining revenue growth will yield an American system of higher education that contributes little to the economic vitality of the nation. It would also be a system in which the rich continue to get richer. That handful of research universities with excess market demand and successful appeals to private philanthropy will preserve their ability to make discretionary investments in new faculty, programs, and technology. Meanwhile, the rest of higher education—in particular, those institutions that serve large numbers of economically and educationally disadvantaged students—will learn to make do with less.

We counsel another way, one that focuses greater attention on changing how colleges and universities do business. What is most needed is a judicious mixture of patience and concerted action built upon five basic recommendations:

- **Keep the facts straight.** Policymakers, critics, and the general public must put aside the caricature of higher education as an industry grubbing for cash. There is a fundamental difference between an insatiable accumulation of wealth for its own sake and often undisciplined attempts to fund quality improvements through budget addition rather than substitution. It would also help if the public understood better that the handful of research-oriented institutions that have been the target of so much vituperation are, by every measure, among this country's most important assets, responsible for much of the nation's research productivity, for defining the canons of most learned professions, and for this country's ties to the international scholarly community. More importantly, they are the natural partners of that extraordinary array of institutions, public and private, that in fact bear principal responsibility for the nation's higher education.

- **Set revenues first.** The best way to end higher education's reliance on cost-plus pricing is to fix revenues—tuitions and public appropriations—at the beginning rather than the end of the budget cycle. It would be even better for colleges and universities, as well as the legislatures that fund them, to establish multi-year rather than annual tuition rates and appropriation schedules, develop financing plans that allow students to purchase their education at a single price, and savings schemes that allow families to accumulate more easily the capital necessary to fund their children's college education.

- **Learn to grow by substitution.** Colleges and universities need to engage in a systematic and public examination of the financial consequences of current academic practices, including teaching loads and the organization and structure of the collegiate curriculum. We have stressed before the need for colleges and universities to determine what they do best and invest accordingly in those programs. It is crucial that institutions learn to choose among competing missions. Growth by substitution—one antidote to cost-plus pricing—becomes possible only when such choices are made; it clears the path for an institution to find new ways to fund institutionally sponsored research, to limit the scope and hence the cost of capital projects, to increase the productivity and perhaps limit the scope of support services, and to yield genuine instructional savings that the institution as a whole can invest in new programs and initiatives.

- **Close marginal campuses.** Public agencies bear a parallel responsibility to ensure that public monies invested in higher education are used to support educational purposes and not to sustain employment. Collegiate campuses that do not have sufficient enrollment to justify their fixed costs are, like outmoded military installations, both a drag on the general economy and a misuse of scarce public funds. The same can be said for private institutions that receive public support for under-enrolled programs. Where there is substantial duplication of specialized degree programs in a single educational market, similar efforts must be made to reduce capacity by concentrating public and private funds in those programs that are best at getting the job done.
- **Exert trustee leadership.** As the intermediaries between the academic and business cultures, trustees have a vital role in bringing about institutional reform. It does little good to make an angry speech to one's fellow trustees if the board's final vote simply gives the institution licence to continue its current course of unfocused growth accompanied by substantially increased prices. Trustees must use the governing power accorded them to bring about positive change in their institutions.

While some will doubt whether there is sufficient public patience or institutional staying power to sustain the necessary recasting of college costs, we count ourselves among the optimists. Higher education has risen to such challenges before—as, for example, when it made merit rather than social class or place of origin the basis for college admissions in the 1950s and 1960s. We are betting that higher education in the 1990s is ready for the challenge of changing its habits and customs, becoming in the process leaner, more adaptive, and more willing to make collective investments.

Higher Education Research Program

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Policy Perspectives is a publication of the
Higher Education Research Program
Sponsored by The Pew Charitable Trusts

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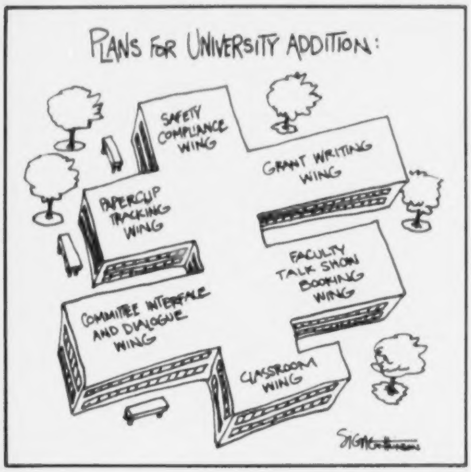
June
1990
Volume 2
Number 4

P — O — L — I — C — Y
PERSPECTIVES

The Pew Higher Education Research Program
Sponsored by The Pew Charitable Trusts

The Lattice and the Ratchet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COMMITTEE INTERFACE AND DIALOGUE WING
CLASSROOM WING

Since former Secretary of Education William Bennett discovered drugs, an uneasy calm has settled over public discussions about collegiate costs and prices. There is now less shouting, less institution-bashing, with fewer personal attacks on college administrators and faculty—though among some, there remains a well-honed instinct to make political hay at the expense of the nation's colleges and universities.

For their part, college and university presidents are less aggressive in their defense of current patterns of expenditure. There are fewer claims that what higher education needs is a good media campaign to remind the public of the inherently high cost of excellence.

At the same time, the focus has begun to shift from price to expenditure—from what students and their families pay, to what colleges and universities spend. Increasingly, colleges and universities are being asked to change the way that they conduct their business: how decisions are made, how functions are staffed, how buildings are built and with what amenities, and finally, how the energies of the institution are distributed between collective goals and individual pursuits.

The asking of these questions reflects two principles that are being applied with increasing frequency to higher education. First is the necessity for colleges and universities to abandon "cost-plus pricing." Like regulated industries of old, institutions of higher education have been practicing a kind of "bottom-up" budgeting, in which inflation is built into each unit's base budget and all quality enhancements are then added-on. With the aggregate budget representing little more than the sum of these disaggregated decisions, the resulting price (tuition plus public appropriation) necessarily equals the amount needed to cover current operations plus elective and mandated improvements.

The alternative principle is "growth by substitution"—a term that implies the need to achieve institutional excellence by developing more focused missions. Colleges and universities are heeding voices, from both within and without, saying that institutions must invest in what they do best—and that they should pay for those investments through savings generated by a combination of program reduction and administrative reorganization.

The focus has begun to shift from price to expenditure—from what students and their families pay, to what colleges and universities spend.

Still, these principles are limited in that they are descriptive without being diagnostic. They portray higher education's current condition without identifying either the factors that over time have defined the academic culture or processes for achieving necessary changes. Calling on institutions to "set revenues first" as "the best way to end higher education's reliance on cost-plus pricing," as we did in the September 1989 issue of *PolicyPerspectives*, is only the first step. It is, we think, important and perhaps necessary for change, but it provides precious little help in itself to an institution that is seeking to control costs in order to live within reduced means. For the president who proposes a voluntary revenue cap, the questions come in increasing fury. What is to be cut? Will there be reductions in academic as well as administrative departments? Will the cuts be across-the-board? Will there be layoffs? Hiring freezes? A year without salary raises? Will planned construction projects proceed even though they add substantially to physical plant costs? Can there be no relaxation in the amount of paperwork required to meet regulatory obligations? No temporary increase in the yield from endowment? No relaxation of the decision to hold the line on prices to give the institution a little more time to adjust to the new economic realities? Why even bother with voluntarily capping revenues as long as there are ample students ready to pay for a first-class education?

These questions suggest the real dilemma facing an institution seeking to reduce its costs in order to live within its means. They also suggest why solving the "problem" is not simply a matter of making less money available to operating units. Budget compression—the squeezing down of most operating budgets across an institution—works best in times of genuine crisis, as when a state suddenly cuts its appropriation to a public institution, or when a private institution experiences a sudden and dramatic shortfall in enrollment. At such times everyone pitches in, making whatever savings are possible. The danger is that once the crisis has passed, the tendency is to restore what was cut—to make up for lost salary increases, to fill positions that temporarily were left vacant, to provide some recompense for those units that bore the brunt of the cost reductions. The ironic result is that such budget compression simply reinforces the pressures for bottom-up budgeting, and hence cost-plus pricing, once the immediate need for expenditure constraint has passed.

We are left, then, with a fundamental question: how can colleges and universities redesign the way they conduct their business, without sacrificing their ability to invest in new ideas? We have come to believe that such a redesign will require a fuller diagnosis of how and why institutional costs have increased over the last decade. In this present essay, we provide a conceptual framework for understanding both the growth in administrative staffs and a shift in faculty functions that have caused the cost of an institution's operations to rise steadily. In subsequent issues of *Policy Perspectives*, we will address specific strategies for cost reduction and ways of making focused investments in instruction before returning to the question of prices, where we began our examination of the higher education economy in the essay "Double Trouble" (*Policy Perspectives*, September 1989).

The Administrative Lattice

On most campuses there is an inherent tension between academic and administrative units, between faculty and staff. Sometimes that tension is genuinely creative, as each half of the institution strives to strengthen itself while recognizing the inherent value of the other. More often, that tension yields an unproductive competition for resources. The faculty remind themselves and the community that they are "the business" of the institution, all other activities being nonessential and frequently wasteful. For their part, the staff gleefully recount tales of faculty mismanagement and waste, secure in their sense that the only thing business-like about the institution is their own ability to discharge increasingly complex management tasks.

Each new federal program carries with it substantial monitoring requirements that often lead to the establishment of new internal bureaucracies whose principal function is to create more work for others.

We know now that it is the administrative function that has grown most over the last decade. In the March 28, 1990, issue of the *Chronicle of Higher Education*, Karen Grassmuck used data submitted by institutions to the U.S. Equal Employment Opportunity Commission to chart that growth. She found that "other professionals"—academic support personnel filling such roles as financial aid counsellor, auditor, or systems analyst—rose in number by more than 60 percent between 1975 and 1985, a period during which the number of faculty rose on average less than 6 percent. Increases were also substantial for many institutions among the ranks of executive, administrative, and managerial personnel. No less telling than the data is Grassmuck's report of the impression among some higher education officials that, in spite of this growth, "many universities are making do with smaller staffs than they need."

The analysis in the *Chronicle* suggests that the growth of administrative personnel is pervasive—that it is not a case in which all of higher education receives blame for the profligacy of a few rich, largely private research universities. Just as most institutions enjoyed real revenue growth in the 1980s (see September 1989 *Policy Perspectives*, "Profiles"), so apparently did most institutions substantially expand their administrative and academic support staffs. The result has been an extension of the scale and scope of an administrative lattice that has grown, much like a crystalline structure, to incorporate ever more elaborate and intricate linkages within itself. Controlling this lattice, perhaps even reducing its complexity and capacity for completing itself, means coming to terms with three principal causes of administrative growth.

The persistence of regulation and micromanagement. Though they often protest too much, college and university presidents are right when they claim that increased regulation and external micromanagement have resulted in substantially increased administrative staffs. OSHA, EEOC, EPA, FISAP, IPEDS, A21, OFCC—the lexicon of regulatory and reporting acronyms is all too familiar. Each new federal program carries with it substantial monitoring requirements that often lead to the establishment of new internal bureaucracies whose principal function is to create more work for others. Health and safety regulations are a prime example. Most research universities have had to increase their staff of health and safety inspectors five-fold or more. These inspectors then find problems that others must be hired to fix.

Micromanagement, principally by state agencies in the public sector and by energetic and sometimes intrusive boards of trustees, has had much the same result—more paper, more procedures, more staff, without substantial increases in the quality of the product. Public commissions of higher education, either as coordinating or governing boards, have become increasingly insistent that they have a right to know, well in advance, what institutions under their purview intend to do. The filing of ever more detailed plans and the seeking of approval for each new certificate or degree program generates sufficient reporting requirements to keep small battalions of administrative staff busy. Boards of trustees are beginning to have the same effect, demanding that they be "kept in the loop" on all major administrative decisions. The result is more paper, more reporting, and, not surprisingly, more personnel, some of whom must explain to the trustees the continual rise in administrative costs.

Building a consensus, it turns out, takes time and extra personnel in the form of more and larger working groups that need to meet more frequently.

The embrace of consensus management. In the 1980s, more and more American firms were persuaded to adopt new, explicitly participatory ways of making decisions. Across the span of business enterprises, efforts were made to get employees to buy into the decisions that affect their working lives and futures—to make the employees part of the process and hence part of the solution. The rationale for this movement was drawn from both the work of human resource professionals and from a peculiarly American understanding of the use of quality circles in Japan to improve production. The ironic result was that increased participation was often purchased at the cost of decreased accountability and productivity.

On college campuses across the country, this commitment to consensus management was a natural complement to a renewed emphasis on community. Out of the turmoil of the 1960s and early 1970s there grew a distaste for hierarchy in any form, an affirmation by most institutions that they were, in fact, communities with equally important members. On most campuses, systems of governance were changed to incorporate students and staff, in addition to faculty, as consulting partners whose opinions and preferences were to be sought and frequently heeded. Good communication became a goal in itself.

The next step was to extend to staff functions the consultative models that had historically dominated faculty deliberations. Without any demonstrable increase in coordination or planning, decisions were framed, reviewed, and ultimately made by working groups whose very representativeness substantially increased the probability that their recommendations would find broad acceptance—that is, a consensus—within the administrative community.

Colleges and universities, like businesses and service organizations, are just beginning to understand the scope of the direct and indirect costs associated with consensus management. Building a consensus, it turns out, takes time and extra personnel in the form of more and larger working groups that need to meet more frequently. Brokering between administrative groups becomes an explicit function, requiring additional personnel and introducing extra steps into the consultative process. Perhaps the most directly measurable costs associated with consensus management are represented by the amount of time administrative staff spend negotiating with one another. At more than one institution, senior staff, much to their chagrin, have come to view themselves as diplomats who are required to display the demeanor and the language of negotiators as they shuttle between the major officers each of them serves.

Indirect costs associated with consensus management have to do with the quality of the decisions that are reached. Because consensus management encourages collective judgement, it becomes increasingly less clear who is in charge of what—who is responsible, who gets the credit for success, who is accountable for failure. Consensus management thus becomes an attractive strategy for distributing to everyone the responsibility—and hence blame—for bad decisions.

Such risk-aversion is not unique to higher education. In her study of managerial behavior, *Managers Managing: The Workings of an Administrative System* (1989), Jane Hannaway notes, for example, that "Risk avoidance has been singled out as particularly problematic in the peacetime U.S. military bureaucracy. Stories are told of generals who were coming up for promotion and refused to take any actions in the weeks before the promotion boards met for fear of making a mistake." Hannaway argues that in the administrative systems of the private as well as the public sectors "the chances of being held responsible for a negative outcome are greater than the chances of being rewarded for a success," and that this fact encourages managers to adopt risk-reducing behaviors.

Finally, consensus management inherently protects the organizational status quo. Since nearly every party is represented in the decision-making process, there is little chance that the group will decide to reorganize in response to changing circumstances, and thereby run the risk of finding itself without a viable assignment. The tendency instead is to solve problems by adding to the lattice—by elaborating staff functions, by creating extra steps in the process, by building new functions that inevitably require further expansion of the administrative lattice.

The expansion of administrative entrepreneurism. Less understood is the pressure for growth created by the administrative staffs' own energies and the willingness of the faculty to consign to them traditionally academic service functions. Because colleges and universities were expanding administratively and had the reputation for being "good places to work," higher education attracted a new cohort of experts who brought an important sense of professionalism to the industry, and who expected energy and creativity to be rewarded with increased responsibility, enhanced status, and better pay.

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One result was much better management. Colleges and universities have become better at managing their monies, at acquiring sophisticated technologies, at making their campuses more efficient in the use of utilities, and at servicing the needs of their students and staffs. A second, unforeseen result is that these experts have come to "own" their jobs, much as faculty "own" their appointments. This outcome was less a product of implied administrative tenure (though such understandings often accompanied the expansion of administrative services) as of the staffs' ability to define the content of their positions, much as faculty define the content of their teaching and research. Professional staff, precisely because they know what is best administratively, have acquired the capacity to put into place their visions of how a well-run institution should look. They define their goals, build their staffs, and use their successes to reach out for broader responsibilities, for opportunities to do their jobs even better.

The shift of responsibility for advising from faculty members to professional staff is one example of how such expansions feed on themselves. On most campuses where faculty have given up responsibility for undergraduate advising, there has been a corresponding shift in the scope and scale of advising now available. Having arrived in the hands of competent professionals whose sole job it is to develop and deliver academic advising, the advising function has come to require more and better computer support, greater flexibility of hours, and a broader range of services, including career placement, tutoring and counseling. Where advising had once been subsumed within the faculty role, it has become instead an enterprise in itself with its own impulse for expansion.

Most administrative activities have become similarly complex, a development justified largely in terms of improved services and greater efficiencies at the unit level. The result has been a proliferation of increasingly independent agencies, each competing to be the very best at delivering its administrative specialty. The impulse at almost every turn has been to develop the lattice further, rewarding administrative personnel who show initiative with larger staffs and increased responsibilities.

Ironically, some of the principal beneficiaries of administrative entrepreneurism have been the faculty members themselves.

At the same time, colleges and universities have seldom managed to apply the principle of growth by substitution to administrative personnel—to substitute one kind of administrative or support function for another. Most new problems are tackled separately; new groups are formed, new administrative functions are defined, more ad hoc relationships with on-going administrative functions are required. The more discretionary revenue an institution generates, the more likely it is to make further investments in administrative "add-ons," often with the implicit acceptance of a faculty who see substantial improvements in their work conditions deriving from quite visible improvements in administrative services.

The Academic Ratchet

Ironically, some of the principal beneficiaries of administrative entrepreneurism have been the faculty members themselves. The four and one-half decades since the close of the Second World War have witnessed a fundamental transformation of the American professoriate. In 1940 there were approximately 147,000 full-time faculty in just over 1,700 colleges and universities. By the mid-1980s, the number of institutions had nearly doubled, while the number of faculty members more than quadrupled. Over the decades, a shift has occurred in the focus of faculty's efforts. Because reliable quantitative data are maddeningly absent, our best guess is that professors in 1990 spend less time in the classroom than their counterparts before the Second World War. There is a general feeling that faculty today spend less time advising, teach fewer courses outside their specialties, and are less committed to a commonly defined curriculum.

Each turn of the ratchet has drawn the norm of faculty activity away from institutionally defined goals and toward the more specialized concerns of faculty research, publication, professional service, and personal pursuits.

These shifts are the visible evidence of a pervasive change in the definition of the academic task—what it is that faculty are formally paid to do and for whom. At work over these more than four decades is an "academic ratchet" that has loosened the faculty members' connection to their institution. Each turn of the ratchet has drawn the norm of faculty activity away from institutionally defined goals and toward the more specialized concerns of faculty research, publication, professional service, and personal pursuits.

Part of what makes the ratchet work is the uniformity with which faculty members expect to be treated with respect to work loads. It is almost impossible, for example, for there to be substantial differentiation of teaching loads within a single department. As long as a few faculty members are advantaged, there will be an irresistible pressure to lower the average load—advancing the ratchet by another click. No one wants to teach more general courses at the expense of the opportunity to teach one's specialty. Eventually everyone gets to teach his or her specialty. The number of general courses declines, the number of specialized offerings increases—and the ratchet turns again.

It is a process that has produced gains as well as losses—increased research productivity, a more expansive set of courses, more freedom for students, particularly those prepared to join their faculty mentors in specialized study. Such gains have been achieved, however, at substantial costs—the need for academic support personnel to leverage faculty time, administrative staff to perform tasks once routinely assigned to the faculty, and a need to increase the size of the faculty. The larger cost, however, lies in the shift of faculty attention and effort away from institutionally defined goals and toward personally and professionally defined pursuits.

Before the Second World War, faculty were largely extensions of their institutions, identified with and part of a collectivity that linked them together in common endeavor. The curriculum was collectively developed. Students were guided through a series of courses in which there was a clear introduction, a variety of middle-level experiences, and a final set of advanced courses that constituted the major. Faculty members devoted as much, if not more, time to teaching general courses within the department as to teaching their own specialties. Teaching loads were heavier than now, but seldom onerous, leaving sufficient time for advising and mentoring, as well as the more limited amount of publication expected of most faculty.

A sad paradox has come to describe the changing responsibilities and perceptions of the American professoriate. Many of those who chose an academic career did so as a result of having been taught well as an undergraduate, often at a smaller, teaching-oriented institution. After years of graduate training and experience in the academic profession, however, college faculty learn to seek "relief" from the responsibilities of teaching, mentoring, and developing their college's and department's curriculum; they soon realize that the real gainers are those faculty members who earn more discretionary time to pursue their own definitions of purposeful work. They understand that professional status depends as much, if not more, on one's standing within a discipline—and less on one's role as a master instructor within an increasingly complex institution.

Because of the growth of the administrative lattice, faculty no longer numerically dominate their institutions, are generally more concerned about their standing within their disciplines, and are more ready to move in search of better deals. The irony is that while administrative units have become more like academic departments—more committed to group processes and collective decision-making—more and more faculty have become independent contractors largely unfettered by the constraints of institutional needs and community practices.

A Framework for Redesign

Change will not come easily, or even purposefully, as long as higher education as an industry perceives itself to require neither greater efficiency nor a heightened sense of accountability. Absent a commitment to redesign, colleges and universities will likely presume that the process of incremental growth can be reversed, leading to decremental and largely across-the-board budget reductions. The resulting budget compression would neither dismantle the administrative lattice nor reverse the academic ratchet, largely because budget compression places a management premium on achieving reductions that affect as few people as possible.

If, on the other hand, a college or university were prepared to proceed by design rather than by compression, what steps might it take?

Take account of administrative growth. The first step is to measure the dimensions of the administrative lattice and to note where and why it has grown over the last decade. This analysis will not be easy. For good and understandable reasons, the administrative staff will resist—citing the difficulty of making meaningful comparisons, the paucity of accurate data, and the extent to which actual growth has been a function of external regulation, the increased size of the physical plant, and faculty and student demands for increased services.

The key questions are those directed at identifying the extent of the lattice at all administrative levels: proliferation of administrative organizations,

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elaboration of decision-making processes, and redundancies among organizations that perform roughly similar tasks, but for different parts of the institution.

Simplify transactions and procedures. The analysis of the administrative lattice will show that growth has been accompanied by the adoption of increasingly complex transactions and procedures—more rules, forms, and reviews for hiring staff, for evaluating students, for tracking expenses, for monitoring contracts, for planning and constructing buildings, and for developing institutional policies and standards. Institutions must seek ways to combine steps, and to use better the power of modern data processing systems to monitor transactions. At every turn, the question ought to be asked: "Is this step necessary?"

Fundamentally, the administrative lattice can be scaled back only by redesigning administrative organizations, by redefining the nature of administrative authority and responsibility on the one hand, and, on the other, the content of administrative tasks. Such redesigns and combinations will necessarily break down the barriers separating academic and administrative functions and, in larger, more complex institutions, those separating the central administration from that of the individual schools and centers.

Shift the focus of incentives away from individual faculty members and toward their departments, divisions, and schools. Reversing the academic ratchet will prove even more difficult, in part because the looming shortage of research-trained scholars will substantially enhance the faculty's bargaining position. A first step available to most institutions is to focus less on individual faculty members and more on departments, divisions, and schools. Begin distributing resources less in terms of rewarding individual faculty members and more in terms of strengthening departments. Make the department rather than the individual instructor responsible for the quality of undergraduate instruction and the nature of the curriculum. Focus less on the teaching loads of individual faculty members and more on the aggregate amount of instruction expected from a department, and then leave to the department's members the distribution of individual assignments. If the department understood that it would be rewarded collectively—in terms of salary increases, tenure levels, new appointments, and support funds—for the quality of its instructional programs, it might allocate its own resources with an eye to achieving better outcomes. Such a shift in attitude would halt, and perhaps even begin reversing, the progress of the ratchet.

Make clear who is in charge. It has become fashionable to mourn the loss of educational leadership—to wish for bygone days when a Charles Eliot and Nicholas Murray Butler could single-handedly recast Harvard and Columbia, and in the process change the nature of higher education. We recommend a more prosaic change. What institutions of higher education need now are effective decision-makers—what in the old days were called men and women with vision and backbone—who feel empowered, often by their boards of trustees, to make choices for which they will be held accountable. Academic leaders and key administrative managers need to know that they can make a difference, that they will be demonstrably rewarded for their successes, and properly chastised, perhaps even retired, for their failures. Less time needs to be spent consulting, and to getting everyone to "own" the outcome.

At the level of the academic department, such empowering means strengthening the hands of the department chairs. At the level of school deans and principal managers, taking accountability and responsibility implies a willingness to change personnel more easily and with less political consequence.

Any accounting of change must address both the administrative lattice and the academic ratchet. Some might observe that because reducing the former will prove easier than reversing the latter, savings will come principally from administrative budgets. For real reform to occur, however, institutions must check the advance of both mechanisms—the ratchet and the lattice.

A Cautionary Note

None of these changes in itself is very novel. Indeed, one of the principal dangers facing colleges and universities will be the tendency of some both within and without the academy to say with malice, "I told you so!" There is a class of faculty politicos who are particularly prone to use studies of administrative growth to wage again that ancient battle between academic and administrative functions. These academics seldom note that they have been a primary beneficiary of administrative growth—that the administrative lattice is the natural complement to the academic ratchet.

Even friends in the business community are likely to say, "It's about time!" Yet to urge colleges and universities to be more "business-like" will hardly be persuasive after a decade in which businesses too often engaged in a frenzy of mergers, acquisitions, and leveraged buy-outs—and spectacular bankruptcies. It would not be churlish for higher education to note that, in terms of cost, the problem of student loan defaults nowhere approaches that of the federal bailout of the savings and loan industry. The $300 to $500 billion likely to be spent over the next 30 years cleaning up the S&L mess dwarfs higher education's most profligate demands for federal aid.

What is clear is that the challenge facing higher education is no different from that facing most American enterprises. The nation's colleges and universities need to become more competitive—leaner, perhaps meaner, certainly more focused, with simpler organizations and a greater ability to make collective investments in targeted programs and projects.

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Policy Perspectives is a publication of the Pew Higher Education Research Program, sponsored by The Pew Charitable Trusts.

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